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**Subject:** 5/16 Afternoon Draft of GSENM Data Call Responses  
**Received:** 2017-05-16T16:11:10-04:00  
[BurrEtal-GSENM-Social2 Visitor Use Study-4-27-10.pdf](#)  
[2015 07 30\\_SocioeconomicBaselineStudyFINAL\\_508.pdf](#)  
[2.b.UDOGM\\_O&Gprod data\\_Upper Valley.pdf](#)  
[2.g\\_CulturalSitesMap5-8-17.pdf](#)  
[ExecutiveSummaryforGSENM\\_051617\\_PM.docx](#)  
[InitialDataRequestRelatedtoReviewofNationalMonuments\\_GSENM\\_051617\\_PM.docx](#)  
[Politics-Economics-and-Federal-Land-Designation-Assess-the-Economic-Impact-of-Land-Protection-Grand-Staircase-Escalante-National-Monument\\_USU\\_DRAFT.pdf](#)  
[Mountain Plains Journal of Business and Economics Volume 14 2013 1-15\\_General\\_Research\\_Yonk,\\_Simmons,\\_and\\_Steed.pdf](#)  
[monuments-summary-update-2014 Headwaters.pdf](#)  
[GSENM Economic Performance Headwaters 2011.pdf](#)

UTSO Team-

Please find attached update Word versions of the Executive Summary and Data Responses for Grand Staircase National Monument and the supporting documents. (Seriously, their staff is amazing- the breadth of materials collected in such short order is phenomenal.) GSENM is still working diligently on this response, so please be advised that this is just an updated draft and subject to changes.

All supporting documents are located in the DOI's Google Drive folder, but only a few BLMers have access in Drive. Because there are many large files, I'm attaching only a few documents referenced in the response that I think will be of interest to UTSO reviewers.

I believe that Cindy is still waiting on some information from the 5th floor, the grazing program, and review by External Affairs.

I've been at my desk since 5:45 am and am heading home shortly, but wanted UTSO staff members to have an opportunity to see the progress of the document. Please bring any issues to our attention during the conference call tomorrow morning (UTSO folks can gather in Monument Room A).

Thanks!

Regards,

Allison Ginn  
 National Conservation Lands Program Lead  
 BLM Utah State Office  
 801-539-4053

**((Call for Data Related to Review of National Monuments under EO 13792 (April 26, 2017)****1. Documents Requested****a. Resource Management Plans/Land Use Plans**

- The Monument Management Plan (MMP) and ROD is located within this Drive folder (1.a.d.GSENM\_mgmt\_plan.pdf).
- The entire GSENM RMP (DEIS/FEIS/ROD) can be accessed here:  
[https://eplanning.blm.gov/epl\\_front/office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=94418](https://eplanning.blm.gov/epl_front/office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=94418)
- The Livestock Grazing EIS/Plan Amendment has been initiated. The DEIS has been reviewed by the UTSO and WO and is nearing public release:  
[https://eplanning.blm.gov/epl\\_front/office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=100826](https://eplanning.blm.gov/epl_front/office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=100826)

**b. Record of Decision**

The MMP and ROD is located within this Drive folder  
(1.a.d.GSENM\_mgmt\_plan.pdf).

**c. Public Scoping Documents**

- GSENM's Monument Management Plan included substantial outreach, public scoping and comment periods according to our land use planning regulations and policies. See Federal Register Notices in Drive folder (1.c.Federal Register, Volume 64 Issue 145 (Thursday, July 29, 1999)).
- Public Comments and Responses for the MMP FEIS are located within this Drive folder (1.c.GSENM\_FEIS\_Comments.pdf).
- See also Scoping Report for Livestock Grazing EIS (1.c.GSENM\_GrazingEISScopingRpt\_Final.pdf) and at:  
[https://eplanning.blm.gov/epl\\_front/office/projects/lup/69026/89803/107384/2014.05.21\\_GSENM\\_ScopingRpt\\_Final\\_508.pdf](https://eplanning.blm.gov/epl_front/office/projects/lup/69026/89803/107384/2014.05.21_GSENM_ScopingRpt_Final_508.pdf).
- GSENM has many documents to demonstrate public engagement in land use planning processes. Please advise on the level of documentation that is requested by the Department.

**d. Presidential Proclamation**

- Proclamation 6920 of September 18, 1996 is in this folder

(1.d.Presidential\_Proclamation\_6920.pdf)

2. Information on activities permitted at the Monument, including annual levels of activity from the date of designation to the present (Designation date for GSENM is September 18, 1996)

a. Recreation annual visits to site

- GSENM uses the Recreation Management Information System (RMIS) to report visitor use, which is calculated using data from multiple traffic counters, permits and visitor counts in the four Visitor Centers. RMIS is generally accepted as the agency's official record. However, RMIS was not available until 1999. Prior to 1999, GSENM aggregated data from the Kanab and Escalante offices. RMIS calculations and GSENM annual internal projections differ from FY99 06 and in FY08; these differences may be attributed to projected versus actual use in most years as the reporting deadline for RMIS is usually several weeks before the end of the actual fiscal year. See: 2.a.GSENM\_RecreationData\_Excel.xls and 2.a.GSENM\_RecreationData\_FY97\_FY16.pdf.

b. Energy annual production of coal, oil, gas and renewables (if any) on site; amount of energy transmission infrastructure on site (if any)

- GSENM shares the Upper Valley Oil Field with the Dixie National Forest, this field accounts for all O&G production in GSENM. The attached document reports production for the Upper Valley Field (BLM/USFS) (2.b.UDOGM\_O&Gprod\_data\_Upper Valley.pdf)
- There is no other O&G production in GSENM, or Kane and Garfield County.
- All Valid Existing Rights for leaseables including coal, and oil & gas are continued
- No new leases since designation
- (b)(5) DPP

c. Minerals annual mineral production on site

- Mineral materials
  - No new Free Use, commercial, or over the counter permits issued since Monument designation
  - Valid existing permits, including those in Title 23 pits, continue to be recognized until permit expiration
  - Significant quantities of gravel and riprap from existing pits continue to be provided for Federal Highways projects, primarily to Utah Department of Transportation

- Locatable Minerals
  - No new mining claims after Monument designation, however existing claims and active mines were allowed to continue (List of active mines in MMP DEIS located within this Drive folder 2.c. MMP\_DEIS Table 3.10\_Locatables.pdf)
- d. Timber annual timber production on site (in board feet, CCF, or similar measure)
  - No commercial timber production pre/post Monument designation
- e. Grazing annual grazing on site (AUMs permitted and sold)
  - Grazing on the Monument Fact Sheet (GSENM Grazing EIS Fact Sheet 05 08 2017)
  - Grazing AUMs/ Permitted and billed (b)(5) DPP [REDACTED]
- f. Subsistence participation rates for subsistence activities occurring on site (fishing, hunting, gathering); quantities harvested; other quantifiable information where available
  - Subsistence activities are those that provide the bare essentials for living: food, water, and shelter. The Federal Subsistence Management Program provides opportunities for subsistence way of life in Alaska on federal public lands and waters. There are no formal subsistence programs outside of Alaska. GSENM does provide for the collection of certain natural materials by Native American Indians, under BLM permit. RMIS data provides the number of permitted/guided and recreational hunting activities and fishing activities (See: 2.a.GSENM\_RecreationData\_Excel.xls and 2.a.GSENM\_RecreationData\_FY97\_FY16.pdf). These numbers do not reflect the actual number of licensed hunters/fishermen. That data is available from Utah Division of Wildlife Resources. Outside of developed recreation sites, the entire GSENM is open for hunting and fishing, which is regulated by Utah Department of Wildlife Resources.
- g. Cultural list of cultural uses/values for site; number of sites; other quantifiable information where available
  - There are approximately 5,000 recorded archeological sites on GSENM (2.g\_CulturalSitesMap5 8 17) . This is with only seven percent of the Monument ( 132,000 acres) surveyed. Archeological inventories carried out to date show extensive use of places within the monument by ancient Native American cultures and a contact point for Anasazi and Fremont cultures. The cultural

resources discovered so far in the monument are outstanding in their variety of cultural affiliation, type and distribution. Hundreds of recorded sites include rock art panels, occupation sites, campsites and granaries. Cultural sites include historic and prehistoric sites, Traditional Cultural Properties, Native American Sacred Sites and cultural landscapes.

**3. Information on activities occurring during the **5 years prior to designation****

**a. Recreation annual visits to site**

BLM transitioned to RMIS in 1999. Data prior to 1999 is not available in the same reporting mechanism as from 1999 Present. GSENM did report visitor use beginning in FY97 See:

2.a.GSENM\_RecreationData\_Excel.xls and 2.a.GSENM\_RecreationData\_FY97\_FY16.pdf. Data prior to designation (pre FY97) is not available.

**b. Energy annual production of coal, oil, gas and renewables (if any) on site; amount of energy transmission infrastructure on site (if any)**

- Upper Valley Oil Field in production, no other O&G production in Kane and Garfield Counties.
- EIS in progress for Andalex/Smokey Hollow Mine.
- Very limited commercial coal extraction from Kane and Garfield Counties

**c. Minerals annual mineral production on site**

- Several existing Alabaster mining operations located in Kane County.
- Mineral materials, primarily sand and gravel and riprap, were extracted from developed pits by counties and commercial entities for local use.

**d. Timber annual timber production on site (in board feet, CCF, or similar measure)**

- No commercial timber production pre/post Monument designation

**e. Grazing annual grazing on site (AUMs permitted and sold)**

**f. Subsistence participation rates for subsistence activities occurring on site (fishing, hunting, gathering); quantities harvested; other quantifiable information where available**

**g. Cultural list of cultural uses/values for site; number of sites; other quantifiable information where available**

**4. Information on activities that likely would have occurred annually from the date of designation to the present if the Monument had not been designated**

The answers to this question would be highly speculative. The question is best answered with qualitative (rather than quantitative) data. As GSENM was designated

20 years ago, the factors affecting such projections are subject to a wide range of variables (many of which are outside of BLM's purview, such as market prices).

a. Recreation annual visits to site

Research by external parties (e.g., Headwaters Economics and Pew Trust reports) indicate that protected landscapes are a draw for visitors and do result in increased visitation to a region. Thus, it is reasonable to conclude that visitation would be less if the lands had not been designated as a monument.

b. Energy annual production of coal, oil, gas and renewables (if any) on site; amount of energy transmission infrastructure on site (if any)

- Commercial speculation depends on the price of commodities
- 4 wildcat Oil & Gas wells drilled on GSENM since designation (1997 1999); none went into production
- Coal. Andalax coal leases were purchased at market value, an EIS was in the works to support the proposed mine. Unknown if the company would have followed through with development.

● (b)(5) DPP

c. Minerals annual mineral production on site

- Counties and commercial entities would have continued to utilize and have improved access to sand/gravel from community pits.
- Limited number of new alabaster mines, depending on the market.

d. Timber annual timber production on site (in board feet, CCF, or similar measure)

There is little harvestable lumber on the Monument (a little more than 1,000 acres of ponderosa). The mill harvested trees from the surrounding Dixie National Forest. The closure of the mill in Escalante was not connected to timber harvest on BLM lands.

e. Grazing annual grazing on site (AUMs permitted and sold)

f. Subsistence participation rates for subsistence activities occurring on site (fishing, hunting, gathering); quantities harvested; other quantifiable information where available

g. Cultural list of cultural uses/values for site; number of sites; other quantifiable information where available

5. Changes to boundaries dates and changes in size

- Monument Designation September 18th, 1996 (1,878,465 acres)
- H.R.3910, Automobile National Heritage Area Act, Public Law 105 355, November 6,

1998, 112 Stat. 3253. 1,884,011 acres, net gain of approximately 5,546 acres  
(Documents located within this Drive folder 5.a.H.R.3910\_Automobile National Heritage Area Act Synopsis)

- H.R.377, Public Law 111-11, 2009 Boundary change and purchase for Turnabout Ranch, approximately 25 acres removed from GSENM (Documents located within this Drive folder 5.c.GSENM\_Boundary\_SaleHR3777\_PL111-11\_Turnabout.pdf)
- Utah Schools and Land Exchange Act 1998: State/SITLA lands within the boundaries of GSENM were exchanged. The Federal government received all State inholdings in GSENM (176,699 acres) while the State Received \$50 million plus \$13 million in unleased coal and approx 139,000 acres including mineral resources. The Federal Government received additional State holdings within other NPS and USFS units.  
(5.1998\_Utah school Land Exchange\_PL105 335.pdf)

**6. Public Outreach prior to Designation outreach activities conducted and opportunities for public comment**

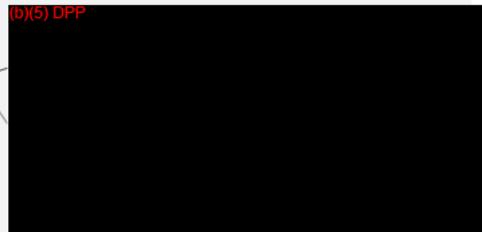
No public outreach documents available.

**7. Terms of Designation**

Refer to Proclamation for the terms of designation.

- GSENM has additional data describing terms of the designation
  - Presidential remarks announcing the designation of GSENM (7.\_Remarks Announcing GSENM pg 1782 2)
  - Secretary of the Interior Memo to the President describing the objects and providing a listing of Monument Objects and a bibliography of Monument object data (7\_8 15 96 Secretarial\_Memo)
  - Secretary of the Interior Memo to the BLM Director describing Interim Management Direction for GSENM (7\_11 6 96 Secretarial\_Memo)

(b)(5) DPP



(b)(5) DPP, (b) (3) (A)



0 2.5 5 10 15 Kilometers

0 2.5 5 10 Miles

## GSENM Known Cultural Resources

Map created by the BLM  
for use of the public  
and interagency partners





## Summary: The Economic Importance of National Monuments to Local Communities *Update and Overview of National Monument Series*

Headwaters Economics | Spring 2014

### Abstract

Headwaters Economics recently updated research that assesses the economic performance of local communities adjacent to national monuments in the West. These updated results—like the earlier study—found that the local economies surrounding all 17 of the national monuments expanded following the creation of new national monuments.<sup>1</sup>

In 2011, Headwaters Economics analyzed the economies surrounding the 17 national monuments in the eleven western continental states that are larger than 10,000 acres and were created between 1982 and 2011. This sample avoids smaller monuments with little potential to have an impact on local economies, and allowed us to analyze economic indicators before and after designation using reliable measures of economic performance.

The new 2014 analysis provides the opportunity to compare more recent economic performance with the earlier study, and is especially interesting as many western communities emerge from the great recession.

While the results showing continued growth in nearby communities does not demonstrate a cause-and-effect relationship, the findings do show that national monuments are consistent with economic growth in adjacent local communities.

Trends in important economic indicators—such as population, employment, personal income, and per capita income growth—in each of the regions surrounding the national monuments mostly dropped during the recession but most have started to recover, much like in similar counties not adjacent to national monuments. Overall, the updated analysis by Headwaters Economics again found no evidence that designating these national monuments prevented continued economic growth.

### Findings

Across the board, trends in important economic indicators either continued or improved in each of the regions surrounding the 17 national monuments studied. Looking at per capita income, a widely accepted measure of prosperity, the data show that this measurement increased for the studied counties adjacent to every national monument in the years

### MONUMENTS STUDIED

Aqua Fria, Arizona  
 Canyons of the Ancients, Colorado  
 Carrizo Plain, California  
 Cascade-Siskiyou, Oregon  
 Craters of the Moon, Idaho  
 El Malpais, New Mexico  
 Giant Sequoia, California  
 Grand Canyon-Parashant, Arizona and Utah  
 Grand Staircase Escalante, Utah  
 Hanford Reach, Washington  
 Ironwood Forest, Arizona  
 Mount St. Helens, Washington  
 Newberry Volcanic, Oregon  
 Santa Rosa-San Jacinto Mountains, California  
 Sonoran Desert, Arizona  
 Upper Missouri River Breaks, Montana  
 Vermilion Cliffs, Arizona

following establishment. This rise in personal wealth is significant, particularly in rural areas where average earnings per job are often declining.

The new analysis again compared the economic performance of national monument counties to similar benchmark counties—either to the Metro or Non-Metro portion of the state where the monument is located. In most instances, the growth in the four key economic indicators was the same or stronger in national monument counties than in comparable peer counties, though this varies by monument.

Looking at these four indicators for all 17 national monument regions, 13 grew at similar or faster rates compared to the benchmark and four were slower.

## National Monuments and Prosperity in the West

The western economy has changed significantly in recent decades. Services industries that employ a wide range of people—from doctors and engineers to teachers and accountants—have driven economic growth and now make up the large majority of jobs, even in rural areas. At the same time, non-labor income, which consists largely of investment and retirement income, is the fastest source of new personal income in the region.<sup>2</sup>

The results of this study correspond to related research that shows how protecting public lands can assist western communities working to promote a more robust economic future:

- Protected lands help create jobs. Western non-metropolitan counties with more than 30 percent of the county's land base in federal protected status such as national parks, monuments, wilderness, and other similar designations increased jobs at four times the rate of similar counties with no protected federal public lands (345% compared to 83% during the last 40 years).<sup>3</sup>
- These lands also increase incomes. In 2010, per capita income in western non-metropolitan counties with 100,000 acres of protected public lands was on average \$4,360 higher than per capita income in similar counties with no protected public lands.<sup>4</sup>
- Protected natural amenities—such as pristine scenery and wildlife—help sustain property values and attract new investment.<sup>5</sup>
- Outdoor recreation is important to western economies. In New Mexico, for example, the Outdoor Industry Foundation reports that active outdoor recreation contributes \$6.1 billion annually to the state's economy, supporting 68,400 jobs.<sup>6</sup>
- Services jobs are increasingly mobile, and many entrepreneurs locate their businesses in areas with a high quality of life. Conserving lands, while also creating a new visibility for them through protective designations, helps safeguard and highlight the amenities that attract people and business.<sup>7</sup>
- For many seniors and soon-to-be retirees, protected public lands and recreation provide important aspects of a high quality of life. Non-labor sources of income already represent more than a third of all personal income in the West—and will grow as the Baby Boomer generation retires.<sup>8</sup>

## Conclusion

The latest review shows again that all of the regional economies adjacent to the studied national monuments experienced growth following a monument's designation. Nearby national monuments help communities to diversify economically while increasing quality of life and recreational

opportunities that assist communities to become more attractive for new residents, businesses, and investment.

The study found no evidence that designating these national monuments prevented continued economic growth. Instead, trends in key economic indicators such as population, employment, personal income, and per capita income either continued or improved in each of the regions surrounding the national monuments.

## For More Information

Contact Chris Mehl, Headwaters Economics, [chris@headwaterseconomics.org](mailto:chris@headwaterseconomics.org) or 406-570-8937

## About Headwaters Economics

Headwaters Economics is an independent, nonprofit research group that assists the public and elected officials in making informed choices about land management and community development decisions in the West, <http://headwaterseconomics.org/>.

## End Notes

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<sup>1</sup> Methodology, details about the national monuments, and the 2011 study can be found here: [http://headwaterseconomics.org/land/reports/national\\_monuments](http://headwaterseconomics.org/land/reports/national_monuments).

<sup>2</sup> Headwaters Economics. 2012. West Is Best. [http://headwaterseconomics.org/land/west\\_is\\_best\\_value\\_of\\_public\\_lands](http://headwaterseconomics.org/land/west_is_best_value_of_public_lands).

<sup>3</sup> Ibid. Rasker, R. 2006. An exploration into the economic impact of industrial development versus conservation on western public lands. *Society & Natural Resources*, 19(3), 191–207.

<sup>4</sup> Rasker, R., P.H. Gude, M. Delorey. 2013. The Effect of Protected Federal Lands on Economic Prosperity in the Non Metropolitan West. *Journal of Regional Analysis and Policy*.

<sup>5</sup> Deller, S. C., T. H. Tsai, et al. 2001. The Role of Amenities and Quality of Life in Rural Economic Growth. *American Journal of Agricultural Economics* 83(2): 352–365.

<sup>6</sup> Outdoor Industry Foundation. 2012. The Outdoor Recreation Economy Report.

<sup>7</sup> Lorah, P. R. Southwick, et al. 2003. Environmental Protection, Population Change, and Economic Development in the Rural Western United States. *Population and Environment* 24(3): 255–272; McGranahan, D. A. 1999. Natural Amenities Drive Rural Population Change. E. R. S. U.S. Department of Agriculture. Washington, D.C.

<sup>8</sup> Frey, W.H. 2006. America's Regional Demographics in the '00 Decade: The Role of Seniors, Boomers and New Minorities. The Brookings Institution, Washington, D.C.

WORKING DRAFT

***Politics, Economics, and Federal Land Designation:***  
***Assessing the Economic Impact of Land Protection—***  
***Grand Staircase -Escalante National Monument***

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WORKING DRAFT

## ***Politics, Economics, and Federal Land Designation:***

### ***Assessing the Economic Impact of Land Protection— Grand Staircase -Escalante National Monument***

#### I. Introduction

In 2008, Utah State Representative Aaron Tilton sponsored House Joint Resolution 10 in the Utah State Legislature encouraging the United States Congress “not to designate new Utah wilderness areas” (1). HJR 10 specifically demanded that Congress not designate any additional Wilderness areas in Utah without the unanimous consent of the Utah Congressional Delegation and reaffirmed “the [Utah] Legislature’s strong support for continued public access and multiple use regarding public lands” (HJR 10 2008, 1). In support of this position, the resolution asserts that Utah relies on public lands for a variety of economic activities including “oil and natural gas development, mining, outdoor recreation and other multiple uses, rights of way for transportation, waterlines, electric transmission, and telecommunication lines” (HJR 10 2008, 2). Each of these activities fuel Utah’s economy and grow the State’s tax base. Removing them from the table is predicted to spell economic doom for Utah’s economy.

In direct contrast to this view, some have alleged that large federal land holdings and protected areas such as Wilderness may attract a different population than in private land counties and thereby may help generate economic growth. The Sonoran Institute recently noted:

“the presence of public lands is good for the economy. Personal income, adjusted for inflation, grows faster in counties with significant percentages of their land base in public ownership. What’s more, counties with protected lands – land set aside for conservation – show an even more marked increase in personal income” (2006).

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This paper seeks to investigate the conflicting belief regarding the economic impacts of federally designated Wilderness through empirical statistical analysis of the economic conditions present in Wilderness and Non-Wilderness Counties over time.<sup>1</sup> Using U.S. Census Data for all counties across the United States we study the impact of Wilderness by examining whether there is an identifiable difference within the economies of Wilderness and Non-Wilderness Counties over time. Our statistical analysis of economic conditions shows that once federal transfers are controlled for neither total tax receipts nor total payroll appears to be affected by the presence of federally designated wilderness. In other words, Wilderness does not have a positive, monetary affect on the counties in which it resides.

We define “Wilderness Counties” as counties that contain any portion of a federally designated Wilderness area. Such federally designated Wilderness may include Wilderness designated pursuant to the Wilderness Act of 1964 and managed by the U.S. Forest Service, U.S. Fish and Wildlife Service (FWS), or National Park Service (NPS), and the Bureau of Land Management (BLM). We specifically exempt from our analysis Wilderness Study Areas and other de facto wilderness such as designated Roadless Areas inside National Forests and property managed to maintain “wilderness characteristics” by the BLM. We include, however, in our study other types of protected areas where the use, profile, and legal status strongly mimics wilderness and that are designated by the national government as National Parks, National Monuments, and National Recreation

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<sup>1</sup>While the scope of this paper is limited to the economic impacts of Wilderness designation, this effort represents the beginning phase of a more expansive study exploring how Wilderness and other federally protected lands impact the economies of rural counties and the quality of life of individuals who live therein. Through our research, we hope to shed light on a number of important questions identified in existing literature including whether there are long term economic benefits from Wilderness designation, whether there are population impacts of Wilderness Designation, and whether Wilderness Counties offer greater quality of life than Non Wilderness Counties.

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Areas. We also do not consider protected areas designated by states such as State Forests, State Parks, and other state protected areas. Finally, we do not include within our analysis properties managed by the U.S. Department of Defense or Indian Reservations. In exempting these other types of land management areas, we hope to better understand the economic impact of federally protected areas over time. Following our broader statistical analysis we specifically consider the case of the designation of the Grand Staircase Escalante National Monument (GSNM).

#### **A. Impact of Federally Protected Lands**

As noted in the introduction, many local government officials bemoan the designation of protected areas as taking off the table a variety of economic activities that would help bolster local economies. In truth, the academic literature investigating the impact of protected area on counties is somewhat sparse. Some of the existing literature represents a critique of the efficiency of the federal government as land manager (See generally Anderson et al. 1999) and the expansive use of protected lands as a land management tool in departure from original congressional intent (Osterle 1997).

More directly on point, some of the existing research seems to support at least part of the claim that protected lands detrimentally impact local economies. Although their findings largely find limited long-term economic detriment to local economies, Ruzitis and Johnson (2000) find that federally protected Wilderness does shut down access to resources traditionally used for extractive economic activities. These losses may be somewhat offset by an increase in service sector activities, but the service sector jobs generally pay less than the extractive jobs that were lost. Although not quite as restrictive as Wilderness, National Parks remove much of the ability of local resource users to

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develop extractive industries in the protected area. It is assumed that the negative impacts of Wilderness are largely identical to National Monument designations.

The duration of these impacts is somewhat unknown. Power (1991) for instance, conducts a case study examining the stringent rules in place protecting the ecosystem surrounding the Greater Yellowstone Area. He finds that extraction based industries have diminished over time and have been replaced by economic activities specifically dependent on preservation including tourism, permanent relocation to be closer to the natural amenities offered, recreational homes and cabins, and retirement. These results raise the question of whether there may be temporal effects on local economies within the designation of protected lands that merit further investigation.

The results indicating negative impacts of protected lands, however, are also by no means uniformly verified. Duffy-Deno (1998) for instance, finds no evidence that employment at a county level is adversely effected by the presence of federal protected lands. Rasker (2006) rejects the notion that federal land ownership negatively impacts counties. Using correlation and regression models to investigate how different management of public lands (including protected lands) impacts local counties' economies, he finds that public lands are associated with higher personal income tax levels in rural areas. Rasker rejects the idea that protected lands affect counties in a negative way.

Holmes and Hecox (2004) similarly find a positive relationship between economic growth and publicly protected lands. Through studying 113 rural counties, 43% of which contain public lands, the authors find that there is a significant, positive correlation between the percent of land designated as federally protected Wilderness and

## WORKING DRAFT

population, income, and employment growth. They also find that growth of investment income and nonfarm self-employment income are correlated with presence of wilderness. Lorah and Southwick (2003) similarly find positive impacts of protected lands. Using county level data, the authors calculate the proportion of protected lands occurring within fifty miles of the center of the county. Applying this metric, the researchers find that the protection of these lands is positively correlated with high population growth and high employment and income growth.

Population dynamics and personal perceptions of protected lands represent another line of inquiry that may have a direct impact on county economics. The perception of Wilderness as a draw to move to or remain in a given area may create diverse economic opportunities and growth. Although Duffy-Deno (1998) finds no significant relationship between federally designated Wilderness and population, a variety of studies find a positive relationship. Rudzitis and Johansen (1991), use a survey of 2670 residents of wilderness counties to measure public opinion regarding public lands including Wilderness lands. They found that 53% moved to an area at least partially because of the presence of wild-lands, 81% felt wilderness was important and 65% were against mineral or energy development in such areas. This finding indicates that protected areas may create conditions that foster economic opportunities in addition to extractive uses. Shumway and Otterstram (2001) similarly find migration patterns toward counties with protected areas.

### ***III Theory Sketch***

Our evaluation focuses on one of the most basic assertions presented by proponents of protected land designation, including those who advocated the creation of

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the Grand Staircase National Monument, that protection of physical lands should over time increase economic prosperity in communities where the protected land is located.

This theory runs counter to other approaches that have generally focused on the consumptive extraction of resources in order to power economic development.

In response to these extractive theories and the decline of extractive industries over time an alternative proposition has developed that asserts that potential economic development can come from what is termed in the literature an area's amenities. (Deller, Tsai, Marcouiller, & English, 2003) The amenities theory of economic development asserts that by observing the change in economic activity as extractive industries declined a clear pattern can be identified where,

“Instead natural amenities, desirable lifestyles and a relatively high quality of life, give some communities an advantage in attracting and benefitting from tourists, retirees, footloose entrepreneurs....environmental amenities ... act as a catalyst in the transformation of stagnating extractive economies into diversified, relatively competitive amenity economies.” (Lorah P. A. 2000)

These assertions claim that future economic development for many rural counties can be found in attracting new residents and tourists thus creating new economic opportunities as these new individuals interact in the community (Rudzitis & Johansen, 1989). These assertions make good economic sense, as more tourists and residents are attracted to an area they bring with them resources that can be used to improve economic conditions generally, so long as those arriving bring resources with them. What those who advocate creating an amenity based economy further assert is that in order to attract those tourists and residents that are likely to bring with them the sorts of resources that are needed if this proposition is to succeed, is best accomplished through the preservation of natural amenities that exist in an area.

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Again generically this makes good economic sense, residents and tourists are more likely to arrive in areas that have the amenities they desire. What then are these amenities? Here we return to the Protected Lands Hypothesis. A number of studies have asserted that natural lands are one of the chief amenities that draw resources to an amenity based economy. In 2006 the Sonoran Institute commissioned a large-scale report that looked at rural western counties and concluded that the protection of land in those counties contributes directly to an increase in economic prosperity, operationalized as the real wages of residents (The Sonoran Institute, 2006). The Sonora report is the culmination of a decade long debate between those who claim that protected lands improve economic conditions, and those that argue they harm them. This report however, used only correlated data to identify potential relationships, and did not publically release either the methodology of the report or the root data.

Scholars including John Loomis, Robert Richardson, and Paul Lorah have conducted a number of studies that attempt to tease out the economic effects of wilderness designation on local communities (Loomis and Richardson 2001; Lorah 2002). These authors conclude that the designation of wilderness in rural areas has a net positive effect on the economic wellbeing of both the community at large and the individual citizen. A number of scholars have challenged the methodology of these studies, which have primarily relied on correlation and expenditure data to make these claims and suggest that other models would be more appropriate in identifying the effects of wilderness (Keith and Fawson 1995; Dawson, Blahna, and Keith 1993).

The literature clearly suggests that a relationship should exist between wilderness designation and economic prosperity. We use this assertion to form the central hypothesis

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of this study. That hypothesis is that the designation of the Grand Staircase Escalante National Monument had significant effects on the economic conditions of Kane and Garfield counties.

**The Grand Staircase**

**II. Federally Designated Protected Lands and National Monuments and the Grand Staircase Escalante Introduced**

Beginning in the late 1800's, the U.S. Government began setting aside swaths of land under varying degrees of protection. These efforts resulted in the establishment of National Parks in 1887 with the creation of Yellowstone National Park and with the creation of National Forests beginning in 1891 through the establishment of the Yellowstone Timberland Reserve (now the Shoshone National Forest). The identified statutory purposes of each of these types of land reservations anticipated some degree of human usage. Parks were designated as places where individuals could visit to recreate in nature's grandeur. National Forests were set aside to conserve timber resources for future use.

**B. The Antiquities Act and National Monuments**

A new type of protection was enabled in 1906 through the creation of the Antiquities Act. The Act grew out of the primary concern over protecting archeological artifacts in the Southwestern United States (Coggins et al. 1993). The Act's language, however, was significantly broader. The Act states:

The President of the United States is authorized, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and may reserve as a part thereof parcels of land, the limits of which

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in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected ... (16 U.S.C.A. § 431).

The earliest use of the Act followed in 1906 with the declaration of Devils Tower, a unique geological formation in Northeastern Wyoming, as the nation's first National Monument. Despite the language of the Act establishing the protection of "the smallest area compatible with the proper care and management of the objects to be protected," Presidents have regularly used the Act to set aside large areas. For instance, President Theodore Roosevelt used the Act to designate some 270,000 acres as a National Monument in the Grand Canyon. The Act was also used by President Franklin Roosevelt to declare 220,000 acres of area around the Grand Tetons as a National Monument in 1943. President Carter designated 56 million acres of Alaskan land as National Monuments in 1978.

Various local interests have challenged these declarations. One miner, for instance, challenged the declaration of the Grand Canyon before the United States Supreme Court in 1920 (*Cameron v. United States*, 252 U.S. 450 [1920]). The miner asserted that the President lacked such authority to claim large areas. The U.S. Supreme Court disagreed stating that "[t]he act under which the President proceeded empowered him to establish reserves" that contained "objects of historic or scientific interest." The Court found that the Grand Canyon certainly fell within this category due to its size and unique geology.

The State of Wyoming similarly sued the federal government over the designation of the area surrounding the Grand Tetons asserting that the area was not unique enough to be considered for a Monument. The U.S. Government asserted that there were historic attributes and various geologic formations, mineral deposits, and plant life that met the

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conditions set out in the Act. A Federal District Court in Wyoming asserted in broad language that “if the Congress presumes to delegate its inherent authority to Executive Departments which exercise acquisitive proclivities not actually intended, the burden on the Congress to pass such remedial legislation” as may be necessary (*State of Wyoming v. Franke*, 58 F.Supp. 890 (D.Wyo.1945). To date, Congress has not acted to pass such legislation and limit the powers granted to the President under the Antiquities Act.

In February of 2010, State Representative Michael Noel from Kane County, Utah introduced House Concurrent Resolution 17 (H.C.R. 17) before the Utah State Legislature. H.C.R. 17, the “Concurrent Resolution Opposing the Use of Presidential Power to Create New National Monuments in Utah,” reflects Noel’s continuing deep resentment of the designation of the Grand Staircase Escalante National Monument in his home district of Kane County. The text of the Resolution urges the President and the United States Congress to forebear creating any new National Monuments and urges Congress “to check the President’s authority to exercise this power by amending the Antiquities Act to clarify its actual intent, which is to establish small discrete monuments or memorials as existed in Utah prior to the unfortunate creation of the 1996 Grand Staircase National Monument” (H.C.R. 17 2010, 1-2).

The Resolution further declares “that this unchecked exercise of power concentrated in the President portends serious consequences for Utah and essentially coronates the President, giving him the ultimate ability to determine the fate of nearly 70% of the entire state with the mere stroke of an unchecked presidential pen” (H.C.R. 17 2010 1). Noel’s feelings are not unique. On March 8, 2010, the Utah State House of Representatives overwhelmingly passed the H.C.R. 17 with a vote margin of 63 to 11 and

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the Utah State Senate unanimously voted in favor of the measure three days later.<sup>2</sup>

Although it is tempting to pass off such feelings as simply reflecting the current political expediency generated by the anti-Washington sentiment present in Western rural political discourse, the ire regarding the creation of National Monuments has been sustained over many years. Many Utahans genuinely mistrust the federal government and fear further Presidential declarations of protected lands.

These feelings were fueled by the 1996 creation of the Grand Staircase Monument. The move to designate the nearly 1.9 million-acre National Monument was quite unpopular within the local populace. Many local officials complained bitterly about the dramatic negative economic impact that the designation. One newsmagazine reported in 1996 regarding the sentiments expressed by Kane County Commissioner Joe Judd:

Kane Commissioner Joe Judd fumed, 'The most powerful politician in the world just kicked me in the teeth.' Judd figures he can kiss goodbye the 900 jobs and millions in tax revenue promised by a coal mine that Andalex Resources Corp., a Dutch company, had planned for the sandstone bluffs and wind-carved buttes of the Kaiparowits Plateau. (Glick and Begley 1996 1)

In direct contrast to Commissioner Judd's view, many academics, environmentalists, and federal government officials have alleged that large federal land holdings and protected lands help generate economic growth. The Sonoran Institute, for example, recently noted:

[T]he presence of public lands is good for the economy. Personal income, adjusted for inflation, grows faster in counties with significant percentages of their land base in public ownership. What's more, counties with protected lands – land set aside for conservation – show an even more marked increase in personal income (2006).

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<sup>2</sup> One member of the Utah State House of Representatives and seven State Senators did not vote

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National Park Service (NPS) data seems to bolster the finding that the National Park and Monument System contributes greatly to local economies.<sup>3</sup> 2008 data from all units administered by the NPS generated the following findings:

[P]ark visitors spent \$11.56 billion in the local region surrounding the parks in 2008. Local residents account for 9.8% of this spending. Visitors staying in motels and lodges outside the park account for 55% of the total spending, while non-local visitors on day trips contribute 21% of all spending (Stynes 2009).

All of this spending resulted in over 200,000 jobs with 4.4 billion dollars in labor income, and 6.9 billion dollars of value added. The industries most benefitted from this activity include lodging, restaurants, retail trade, and amusements (Stynes 2009). The federal government may also add to the local economy where parks exist by employing various workers to maintain the infrastructure or otherwise conduct the activities of the park.

### **III. The Grand Staircase Escalante National Monument**

The Grand Staircase Escalante National Monument was created by President Clinton in 1996. The Monument spans nearly 1.9 million acres in South-Central Utah along the Arizona border. The monument resides completely within Utah, and as can be seen in Figure 1 below, occupies the majority of Kane County and much of Garfield County. Each of these counties already contained a vast majority of public land. Much of this land had been placed in protected status. Bryce Canyon National Park, for instance, straddles Kane and Garfield Counties. Capitol Reef National Park crosses into eastern Garfield County, and much of Southern Kane County contains the Glen Canyon Dam National Recreation Area.

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<sup>3</sup> It should be pointed out that the NPS does not manage the Grand Staircase Escalante. Due to its size, the service declined management, leaving management decisions to the Bureau of Land Management. The Grand Staircase was the first National Monument not managed by the NPS.

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**Figure 1**

(Bureau of Land Management 2009)

Located in a geologically diverse region, the Grand Staircase contains a treasure trove of mineral deposits. The area contains an estimated 62 billion tons of coal estimated to be worth hundreds of billions of dollars. Also contained are large oil deposits, estimated at around 270 million barrels of oil. In the early 1990s, Andalex Resources Company, a Dutch based coal mining company, had acquired permits to mine coal from the area. Conoco Oil, PacifiCorp, and various other companies had also acquired permission to develop mineral extraction activities in the area.

In 1996, President Clinton stood atop the South Rim of the Grand Canyon in Arizona to make the announcement regarding the creation of the Monument.<sup>4</sup> In making the announcement, the President alluded to the vast mineral deposits found within the Grand Staircase. He stated, “[m]ining jobs are good jobs, and mining is important to our

<sup>4</sup> The fact that the President did not enter Utah in making the announcement was not lost on the local residents and further fueled the resentment regarding the creation of the Monument.

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national economy and to our national security. But we can't have mines everywhere, and we shouldn't have mines that threaten our national treasures" (Clinton 1996, 1787). The national treasures contained in the Grand Staircase identified by the President included the area's aesthetic quality, geology, archeological artifacts, fossils, biology, and its history. Each of these items provides recreational opportunities for explorers and research opportunities for geologists, archeologists, biologists, and historians.

After its designation the Grand Staircase Escalante National Monument became the largest National Monument in the United States. Due to its size, the President established a new management regime for the park. Although the National Park Service had managed all National Monuments up to that date, the determination was made that the Grand Staircase would remain under the management of the Bureau of Land Management.

**Testing the Economic Effects**

Much of existent work on the economic impact of wilderness has relied on cross sectional data, and in doing so provides an interesting snapshot of the correlative effects of wilderness and economic development. This approach however fails to capture and model effectively the lag that often exists in predicting economic outcomes. It is our belief that approaches of this sort while interesting, fail to adequately address the question of causality, and that a cross-sectional time series model is the more appropriate approach if the goal is teasing out causation. Further as we observed above wilderness designation has most often been investigated as a primarily regional phenomenon, and most studies have that have investigated these questions are interested in the broad effects of generic wilderness.

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We assert that most appropriate way to test for the impact of wilderness is by looking at the county where the designation is made and those counties which are most like the county of interest at the time of designation. To do this we match both Garfield and Kane counties with other U.S. counties on land area, population, income, and education variables. Using a matching methodology we limit our consideration to the economic changes that occur among those counties.

This approach allows us to test whether the designation of wilderness changes the economic outcomes that would likely have happened absent that designation. As is always the case in the real world once an event has occurred it is impossible to know what would have happened had it not occurred. Much of the debate over wilderness designation hinges on this question. Our approach compares the newly designated wilderness county with counties that look and act in similar ways to the test county allows us at least a glimpse of what was likely to have happened without the designation.

This glimpse is possible because we compare whether the designation dummy variable is significant in the cross sectional time series regression. The expectation is that if designation affects economic outcomes the dummy variable should be significant. Using these methodological changes, we perform two sets of regressions, using the matched data, and use two different dependent variables both of which attempt to capture the economic development.

Our first measure of economic development is the total payroll expended in a county. Again we use this to proxy for economic development. This approach has the advantage of not being a direct function of the institutional arrangements that exist. (It could however be an indirect function of those institutions.) Further it is a measure that

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speaks directly to the economic situation of individuals. We use payroll over total receipts on the assumption that payroll is more likely to remain within the county and have a direct impact on the geographic area that is the gross receipts of corporations. This measure is not a perfect proxy, and does not capture the capital investment, out of county workers, or most importantly retirees that do not receive payroll.

The second relies primarily on the tax receipts of a particular county to proxy for economic development. Using this dependent variable has a number of advantages, the data is likely largely complete, and in general local governments are required by state and federal statute to correctly report tax receipts, this reality provides some confidence in the data that self-reporting or estimations of economic activity do not provide. This dependent variable, however, is also not a perfect proxy, and there are significant institutional differences across states, regions, and often counties themselves about how, when, and why taxes may be collected. These differences are highly likely to be important predictors of tax receipts, and will exist in our model as omitted variables.

While neither of our dependent variables are ideal proxy's for economic development taken together they paint a relatively complete picture of the economic situation, and the expectation is that the presence of wilderness would affect both in nearly the same way, at the very least the direction should be the same.

The results of the designation the National Monument on the local economic conditions has largely remained an open question. Neither local elected officials nor the proponents of the monument have been able to quantify the effect of the monument on the local counties. The results of these regressions are found in tables 1 and 2.

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Table One  
 Kane County  
 Cross Sectional Time Series<sup>5</sup>

	Model 1 Payroll	Model 2 Tax Receipts
Observations	263	267
R SQ Overall	.8970	.7145
Variables	Payroll (Mill \$)	Tax Rec (Mill \$)
Grand Stair Case Designation	13.8580*** (4.314)	.6139 (3.5011)
Wilderness	.6539 (3.9102)	1.6276 (2.0215)
Population	.0047** (.0020)	.0013 (.0017)
Land Area	.0017 (.0014)	.0001 (.0011)
Households	.0262*** (.0049)	.0034 (.0037)
Change in Household	.1712 (.1357)	.0054 (.0986)
Birthrate	1.617** (.5303)	.2968 (.3500)
Infant Mortality Rate	.0071 (.0627)	.0245 (.0334)
School Enrollment	.0130 (.0032)	.0081*** (.0026)
High School Graduation Rate	.4221** (.1888)	.2083** (.0942)
Median Household Income	.0016*** (.0003)	.0015*** (.0002)
Poverty Rate	.1182 (.3252)	.3384* (.2116)
Crime Rate	.0003 (.0009)	.0007 (.0008)
Unemployment Rate	.8065** (.7223)	.7801*** (.2365)
Local Government Employment	.0187*** (.0047)	.0022 (.0033)

Robust Standard Errors in Parentheses

\*P .10 \*\*P .05 \*\*\*P .01

Table Two  
 Garfield County  
 Cross Sectional Time Series<sup>6</sup>

	Model 1	Model 2

<sup>5</sup> All Control variables are excluded from the table, but full table available upon request. We observe no changes in the direction or significance when compared to the broader model.

<sup>6</sup> All Control variables are excluded from the table, but full table available upon request. We observe no changes in the direction or significance when compared to the broader model.

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	Payroll	Tax Receipts
Observations	263	267
R SQ Overall	.8700	.7145
Variables	Payroll (Mill \$)	Tax Rec (Mill \$)
Grand Stair Case Designation	16.1536 (16.7021)	2.8784 (6.2604)
Wilderness	1.8105 (12.0077)	13.9469** (6.7827)
Population	.0079 (.0041)	.0033* (.0019)
Land Area	.0082** (.0039)	.0001 (.0016)
Households	.0192* (.0107)	.0006 (.0044)
Change in Household	.5871* (.3126)	.0228 (.0855)
Birthrate	5.630*** (1.3899)	1.2937*** (.4641)
Infant Mortality Rate	.1566 (.2443)	.0120 (.0983)
School Enrollment	.0069 (.0053)	.0107*** (.0020)
High School Graduation Rate	.3088 (.4822)	.1676 (.1587)
Median Household Income	.0031*** (.0007)	.0012*** (.0003)
Poverty Rate	.5674 (1.1554)	1.723*** (.4841)
Crime Rate	.0016 (.0028)	.0008 (.0008)
Unemployment Rate	3.1359** (1.2324)	1.3621*** (.4231)
Local Government Employment	.01439 (.0118)	.0069* (.0036)

Robust Standard Errors in Parentheses

\*P .10 \*\*P .05 \*\*\*P .01

These results in three of the four models do not allow us to reject the null hypothesis of no effect of the designation occurs square well with our larger understanding of the influence of federal designations. The single result where the designation appears to have an effect is in Kane County where the designation appears to have cost the local economy between 5 and 22 million dollars in total payroll in comparison with the match counties for Kane. The evidence for increased payroll, however, as a measure of the gross economic activity shows no such effect. As well in

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Garfield County we see no effect with relation to the comparison counties, and as we cannot reject the null find no evidence that the designation of the monument is either helping or hurting the Economy of Garfield County.

The net of our evaluation of the designation of the Grand Staircase National Monument is that like general protection, this specific designation has had little or no effect on the economic situation of the host counties. Only with respect to total payroll in a single model can we identify a statistically significant effect of the monument, and taken on sum these results confirm our broader results that as we cannot reject the null hypothesis we cannot confirm that either side of the debate over the economic effects of protected lands are correct.

***VI Analysis and Conclusion***

The importance of economic development to those concerned about rural counties cannot be overstated, the extractive industries that have for so long been the life blood of these communities are under increasing pressure as reserves are depleted, cheaper alternatives are developed, and imported extractive resources compete in the market place.

That some would attempt to use the natural features that many of these counties have as a way to leverage economic development is certainly a potentially valuable undertaking. Those that claim to have a magic bullet like protection designation to improve economic conditions have failed to evaluate and understand the data fully. Only when large-scale federal transfers accompany the designation of wilderness does it appear that wilderness designation has a meaningful impact on the economic conditions of an area. That is not to say that for one county, designating an area for recreation

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whether it be wilderness, a national park or other type of land use, may be a way to improve its economic conditions, and indeed we see some evidence for this proposition from the single significant result in our models. Nothing in this study precludes the wisdom of this use for individual counties if it is to their comparative advantage, rather the findings of this study indicate that the value of land protection without consideration of designation type cannot be taken as a given when considering the economic conditions of a particular area.

We instead suggest that the debate over the value of the protection of public lands should be less about their economic effects, and more about a John Muir-esque contemplation of the importance of wild places as “*...the people's cathedrals and churches, for no holier temple has ever been consecrated by the heart of man.*”

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## Executive Summary of Review of National Monuments under EO 13792 (April 26, 2017)

### **Key Information about Grand Staircase Escalante National Monument**

Grand Staircase-Escalante National Monument was established by Presidential Proclamation on September 18, 1996, as BLM's first national monument. BLM manages for multiple uses within the Monument (hunting, fishing, recreation, grazing, and valid existing rights such as oil production, etc.), while protecting the vast array of historic and scientific resources identified in the Proclamation and providing opportunities for scientific study of those resources. The resources identified in the Proclamation includes geologic treasures of exposed stratigraphy and structures, world class paleontological sites, extensive use of the area by ancient Native American cultures and thousands of recorded cultural sites, a rich expanse of human history, and five life zones of outstanding biological resources.

### **Summary of Public Engagement Prior to Designation**

Grand Staircase-Escalante National Monument was designated in 1996 without public engagement. However, the area in southern Utah had long been considered, discussed and evaluated for the possibility of providing greater recognition of and legal protection for its resources. In 1936, the National Park Service considered making a recommendation to President Roosevelt to designate a 6,968 square mile "Escalante National Monument" (which also extended to portions of Bears Ears National Monument). A second NPS proposal proposed a 2,450 square mile National Monument. In the late 1970's the area was evaluated for its wilderness characteristics under FLPMA, and more than a dozen wilderness study areas, totaling about 900,000 acres were established in the area.

### **Summary of Public Scoping in Development of Resource Management Plan**

GSENM's Monument Management Plan included substantial outreach, public scoping and comment periods according to land use planning regulations and policies. Over 6,800 individual letters were received during the public scoping period and the comments covered nine broad categories; Access and Transportation, Biological Resources, General, Grazing, Lands, Recreation, Water Resources, Wilderness Study Areas and Wild and Scenic Rivers. Similar public outreach efforts are underway for the Livestock Grazing Monument Management Plan Amendment and Environmental Impact Statement.

### **Summary of National Monument Activities since Designation**

In the 21 years since Grand Staircase-Escalante National Monument was designated, a wealth of scientific knowledge has been discovered, with significant archaeological and paleontological discoveries on the Monument. The scientific research and discoveries were outlined and highlighted through a series of 3 "Learning from the Land" Symposiums, in 1997, 2006 and 2016. ( included in the Symposium folder on the google drive). A Monument Management Plan was completed in 2000, ensuring continued management of multiple uses and valid existing

rights. GSENM also provides visitor services and information at four visitor centers in neighboring towns to support the increasing visitor and commercial use on the Monument and to foster tourism in gateway communities. A summary of GSENM activities for 2016 can be found in the Monument Manager's Report in the Background folder on the google drive.

#### **Summary of Activities in Area for 5 years Preceding Pre-Designation**

Prior to the 1996 designation of GSENM, the public land was managed by the Bureau of Land Management, within two resource areas: the Kanab Resource Area and the Escalante Resource Area. The lands were used primarily for scientific study, primitive recreation and livestock grazing.

#### **Summary of Available Economic Information since Designation**

Economic research by external parties has been completed and includes GSENM specific information in the Headwaters Economic Report, and a research paper written in 2004 by Dr. Steven Burr, Director of the Institute for Outdoor Recreation and Tourism at Utah State University titled "Grand Staircase-Escalante National Monument Front Country Visitors' Characteristics, Monument Management and Community Services Impressions, and Expenditures in the Monument Area." In addition, a Socioeconomic Baseline Report was completed for the Livestock Grazing Plan Amendment EIS in 2015. These documents, along with additional economic research, are provided in the Economic Folder in Google Drive.

#### **Summary of Any Boundary Adjustments since Designation**

Since designation, there were two congressional boundary adjustments as well as an exchange of all of the State of Utah School and Institutional Trust Lands Administration (SITLA) lands within the Monument boundaries. When the Monument was designated, it encompassed 1,878,465 acres. In 1998, H.R. 3910, the Automobile National Heritage Area Act (Public Law 105-355), resulted in a boundary change to 1,884,011 acres, a net gain of approximately 5,546 acres. In 2009, H.R. 377, the Ominbus Public Land Management Act (Public Law 111-11), directed a boundary change and purchase for the Turnabout Ranch, resulting in the removal of approximately 25 acres from GSENM. The Utah Schools and Land Exchange Act of 1998 exchanged State/SITLA lands within the boundaries of GSENM. The federal government received all State inholdings in GSENM (176,699 acres) while the State received \$50 million in cash plus \$13 million in unleased coal and approximately 139,000 acres, including mineral resources. The federal government received additional State holdings within other NPS and USFS units as part of the same exchange.

# Grand Staircase-Escalante National Monument Front Country Visitors' Characteristics, Monument Management and Community Services Impressions, and Expenditures in the Monument Area

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## ABSTRACT

This paper presents data collected from a study conducted during the 2004 visitation season on front country visitors to the Grand Staircase-Escalante National Monument (GSENM). Part of the study's purpose was to provide baseline information on visitors' characteristics, satisfaction with GSENM management efforts, impression of nearby communities' visitor services, and visitor expenditures in those communities as well as economic impacts to Kane and Garfield Counties from those expenditures. Visitors to the GSENM come from throughout the United States and the world. They tend to appreciate GSENM management efforts but would like to see improvements in areas such as signage and information dissemination. They were also pleased with visitor services in communities in the Monument area but would value some improvements such as a diversity of dining establishments. In the GSENM area, visitors from Utah spent an average of \$74 per person on their trip compared to \$200 for visitors from other states and \$274 for international visitors.

**Keywords:** front country visitors, visitor characteristics, social science survey research, outdoor recreation, recreation resource management, importance-performance analysis, IMPLAN

(IORT) at Utah State University. This study was funded by the Grand Staircase-Escalante National Monument, Bureau of Land Management (BLM). The main objective of this study was to provide baseline data concerning front country recreation uses and the interaction between visitor uses and other Monument values.

The Monument was designated to protect nearly 1.9 million acres of southern Utah in a "primitive, frontier state" and to provide outstanding opportunities for scientific research and education (U.S.D.I. Bureau of Land Management, 1999). To meet these goals, it is critical to

## Introduction

The purpose of this project was to gather data from front country visitors to the Grand Staircase-Escalante National Monument (GSENM). The study was conducted by research scientists and students affiliated with the Institute for Outdoor Recreation and Tourism

protect the natural conditions of the Monument. At the same time, however, traditional uses are acceptable as long as they do not conflict with the primary purposes of the Monument. Recreation is one of the most pervasive of these traditional uses.

Visitor intercept surveys were administered at developed sites in the Front Country zone and at key dispersed use areas in both the Front Country and Passage zones of the Monument. Three slightly different versions of intercept surveys and one mail survey were developed and administered during 2004. The surveys were designed with five goals in mind:

1. Collect baseline data of visitor characteristics and use patterns for the purpose of long-term monitoring of recreation use trends.
2. Collect visitor expectation and satisfaction data useful for long term monitoring to help BLM managers understand visitor interests and preferences, and the reasons visitors do what they do.
3. Collect data on visitor images of the Monument and knowledge of scientific research results to provide baseline data for long term evaluation of informational and educational messages at visitor centers and waysides, and through community education programs.
4. Collect data on the relationship between tourism, visitor and hospitality services, and local community development.
5. Identify Monument site use levels using GIS maps and compare use with management zones.

The purpose of the following paper is to report research findings on certain visitors' characteristics, satisfaction with GSENM management efforts, impression of nearby communities' visitor services, and visitor expenditures in those communities. The complete report addressing all research objectives, *A Front Country Visitor Study for Grand Staircase-Escalante National Monument*, can be accessed at <http://extension.usu.edu/iort/html/professional/april2006>.

### Study Site

On September 18, 1996, President Clinton exercised his presidential right granted through the Antiquities Act of 1906 and designated nearly 1.9 million acres in southern Utah as the Grand Staircase-Escalante National Monument (GSENM). The GSENM is the first national monument to be administered and managed by the Bureau of Land Management (BLM) and became the first national monument in the BLM's new National Landscape Conservation System. The GSENM contains many outstanding natural features including sandstone canyons, arches, desert terrain, and riparian areas on the Colorado Plateau. The GSENM is very remote; it was the last place in the continental United States to be mapped (U.S.D.I. Bureau of Land Management, 1999). The Monument is surrounded by a number of other federally managed, specially protected lands including: Glen Canyon National Recreation Area to the southeast, Capitol Reef National Park to the northeast, and Bryce Canyon National Park to the northwest, all units within the National Park System; the Dixie National Forest to the north and west, and the Paria Canyon-Vermilion Cliffs Wilderness Area on the Utah-Arizona state line, managed by the BLM. Other major visitor attractions near the GSENM are Grand Canyon National Park, Zion National Park, and Lake Powell within the Glen Canyon National Recreation area.

The GSENM itself is made up of three distinct physiographic regions: the Escalante Canyons in the northeast portion of the GSENM, the Kaiparowits Plateau making up the middle portion of the GSENM, and the Grand Staircase in the southwest portion of the GSENM. Each of these regions contains extraordinary historical, cultural, and geological features. It is from the names of these physiographic regions that the GSENM gets its name, Grand Staircase-Escalante National Monument. Unfortunately, the name can be misleading and visitors may come looking for an actual "grand staircase" on a human scale. The "grand staircase" is actually geological, made up of the Chocolate, Vermilion, White, Gray, and Pink Cliffs as they ascend in elevation from south to north across the western side of the GSENM, and can only be seen if one looks north onto the

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GSENM from around the Highway 89 area just north of the Arizona-Utah border.

The intent behind the designation of this vast area of land was to protect it in a “primitive, frontier state” and to “provide outstanding opportunities for scientific research and education” (U.S.D.I. Bureau of Land Management, 1999: iv). At the time of the designation, the BLM had never before been given the responsibility of managing a national monument. With the designation, the BLM became responsible for managing the area for recreation as well as most other traditional uses. Due to this added responsibility, the managers of the GSENM felt it was important to support research that would help them understand how to best manage the area for both front country and backcountry recreation visitors.

In 1999, a backcountry visitor use survey was conducted by Dr. Mark Brunson and Lael Palmer through the Institute for Outdoor Recreation and Tourism (IORT) at Utah State University. One focus for this survey was to examine recreationists’ relationship with a newly designated national monument (Palmer, 2001). Since this backcountry visitor baseline data had been collected, it was also important for the BLM to conduct a study which would contribute baseline data on front country recreation visitors.

According to the BLM, approximately 600,000 people visit the GSENM every year, and recreational use is increasing. BLM managers believe that most visits occur in the Front Country and Passage zones, which comprise only about 6% (116,372 acres) of the Monument at the periphery and along major transportation routes. The management plan for the GSENM calls for a continuation of this concentrated visitor use pattern. The concentration of visitors on a relatively small portion of the GSENM can help managers meet the dual goals of providing recreation while protecting most of the area from many recreational impacts. The success of the zoning strategy, however, is dependent on understanding and monitoring visitor use patterns and perceptions of crowding, understanding the relationship between visitor behavior and the natural environment, and using informa-

tion and education to increase visitor appreciation for the GSENM and to reduce visitor impacts.

### *Background Literature*

The social sciences lag behind the biophysical sciences in providing data that are relevant for ecosystem-based management (Lee, 1993; Blahna, 1995). In the past, research on recreation use in protected areas has been hindered by narrow, site-specific data collection efforts which have proved to be of marginal value for protected area planning and management (Borrie, McCool, & Stankey, 1998). Furthermore, while backcountry recreation experiences have been widely studied (Hammit & Cole, 1998) few research efforts have focused on dispersed, motorized recreation activities. Likewise, we know that recreation experiences can be enhanced by the presence of biological or cultural resources (Knight & Gutzwiller, 1995; Wang, Anderson, & Jakes, 1996), but little or no research has specifically examined these interactions on the Colorado Plateau, or compared the interests and values of visitors to dispersed and developed sites. Visitor interaction with local communities is also a key concern for Monument staff, but there are few large-scale studies of these interactions. Through the use of the front country visitor surveys, baseline data was collected in order to examine these issues.

There are also large gaps in our understanding of the link between science literacy and informational and educational programs of protected areas. Science literacy is a critical element of positive environmental attitudes and behavior and enhancement of scientific literacy among the public is a primary objective of the Monument. Yet there are very few large-scale studies of whether national monuments, parks, and other protected areas are effective in meeting this mandate. Baseline data collected through the front country visitor surveys helps also to look at this issue.

Many rural economies in the West have diversified from being based solely on extractive resource industries (e.g., grazing, timber production, and mining) to include an emphasis on service industries, especially those related to visitor and hospitality services associated with tourism. Successful communities are focusing on developing

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services that emphasize open space and remoteness, scenic beauty, outdoor recreation opportunities, and other amenity resources (Drabenstott & Smith, 1995). Amenity resources refer to those aspects of the rural environment in which residents and visitors alike may find beauty, pleasure, and experiences that are unique to that locale. A destination's place uniqueness can be developed and marketed to visiting tourists. Tourism, as a development industry, relies on the development and utilization of natural, historical, cultural, and human resources in the local environment as tourist attractions and destinations. Tourism creates recreational uses for natural and human-made amenity resources and converts these into income producing assets for local residents, thus contributing to the local economy and community development (Willits, Bealer, & Timbers, 1992). Data was also collected through the front country visitor surveys that provide for a limited evaluation of and an analysis of the relationships between visitors and hospitality services provided in the "gateway" communities surrounding the GSENM.

## Methodology

### Research Questions

The Monument provides an outstanding setting for collecting social science data to help address the research and literature gaps identified previously, and to provide baseline data for evaluating the long-term effectiveness of the zoning strategy contained in the management plan. The following paper describes results from three primary research questions:

1. What are some visitor and use characteristics associated with recreation in dispersed areas in the Front Country and Passage Zones of the Monument?
2. What expectations and preferences do visitors at developed sites in the Front Country Zone have of the management resources and opportunities of the National Monument and visitor hospitality services in the surrounding communities?

3. How much money are visitors to the Front Country and Passage Zones spending in communities located in the Monument area?

### *Survey and Sampling Design*

For Phase I of this study, the survey instruments and sampling design were initially developed in collaboration with Monument staff. During Phase I the survey instruments and the sampling design were pilot tested. From the results of this first year pilot study, the survey instruments and sampling design for Phase II were developed.

Three intercept survey instruments were used in this study: recreation site in the Monument, Monument visitor center, and Scenic Byway 12 overlook surveys. These surveys contained many similar questions, but differed slightly for each type of site. The last two pages of the recreation site survey included questions regarding visitors' expectations, impressions, and activities participated in while at that survey site, while the last two pages of the visitor center survey included questions regarding visitors' impressions of and satisfaction with the facility, displays, and staff at the visitor center survey site. The overlook survey consisted of the same questions asked in the main sections of the recreation site and visitor center surveys. However, a trip route mapping exercise that was included in the other surveys was omitted from the overlook survey due to the amount of time it took to complete in relation to the typical amount of time visitors actually spent at the overlooks.

The main sections of the three intercept surveys contained questions regarding group size, length of stay, residence, overall trip route (mapping exercise), activities participated in, impressions, expectations, and satisfactions while visiting the Monument. The recreation site and visitor center surveys included a mapping exercise where the intent was to attain the most accurate description of the respondent's trip route up to the point when the visitor was surveyed, as well as the visitor's planned trip route following the interview. During this exercise, visitors were asked to point out any sites or visitor centers they had already stopped at, as well as those they were planning to

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<b>Monument Recreation Sites</b>				<b>Visitor Centers</b>	<b>Overlooks</b>
<i>Trailheads</i>	<i>Scenic Attractions</i>	<i>Roads</i>	<i>Campgrounds</i>		
Calf Creek	Devil's Garden	Burr Trail	Calf Creek	Big Water	Blues
Deer Creek	Grosvenor Arch	Cottonwood Pull-off	Deer Creek	Boulder	Boynton
Dry Fork	Left Hand Collet	Johnson Canyon Road kiosk	Whitehouse	Cannonville	Head of the Rocks
Escalante River	Paria Movie Set	Smokey Mountain Road kiosk		Escalante	
Harris Wash				Kanab	
Lower Hackberry					
Whitehouse					
Wire Pass					

**Table 1.** Intercept Survey Sites

stop and where they were planning to go once they left the Monument area.

During the intercept survey data collection effort, 1,751 visitors were asked if they would be willing to participate in a more detailed follow-up mail survey. A mailing list was compiled of all visitors who agreed to participate in the mail survey and provided an address ( $n = 1,148$ ). A three wave mailing design was employed following the outline provided by Dillman (2001). A mail survey accompanied by a cover letter was sent to all visitors on the mailing list as the first wave mailing. Two weeks later, as the second wave mailing, a postcard reminder was sent to all visitors who had not completed and returned the survey sent in the first wave. About one to two weeks following the postcard reminder, another blank survey with an updated cover letter was sent to any remaining visitors who had not yet returned a completed survey.

The mail survey included more detailed questions regarding visitor characteristics, past experience, expectations, satisfactions, Monument images, and expenditures. The survey instrument itself was nine pages long and included a mapping exercise similar to the one used in the intercept survey.

***Sampling Process***

A two-step sampling design was developed and implemented: a short on-site intercept survey, and a more detailed mail survey. Data were gathered from visitors from late March through mid October in 2004, using a random systematic selection of dates. Intercept surveys were conducted at 27 pre-determined sites within the Front Country and Passage Zones of the GSENM. Surveys were conducted at five visitor centers and three overlooks adjacent to the Monument, and 19 recreation sites (trailheads, scenic attractions, roads, and campgrounds) located directly on the GSENM. A breakdown of sample sites by each the type of location and a complete list of contact points are shown on Table 1. Visitors to the three campgrounds (Calf Creek, Deer Creek, Whitehouse) were sampled during the same time block as the respective trailheads at these locations. Visitors were approached by researchers after completing activities at each site, while campers were approached at their campsites. Researchers conducted intercept surveys in an interview style with those visitors who agreed to participate in the study.

		Monument Recreation Sites				Visitor Centers	Overlooks	Total
		Trailheads	Scenic Attractions	Roads	Campgrounds			
Days in Sampling Period	Weekend	25	14	19	9	30	15	45
	Weekday	56	35	42	25	63	38	96
<b>Number of Contacts</b>		272	213	84	28	724	985	2,306
Completed Intercept Surveys	Weekend	103	66	28	17	230	264	708
	Weekday	157	139	53	10	371	623	1,353
	Total	260	205	81	27	602 <sup>1</sup>	887	2,062
<b>Intercept Response Rate</b>		95.6%	96.2%	96.4%	96.4%	83.1%	90.1%	89.4%
<b>Number of Addresses</b>		193 (74.2%)	149 (72.7%)	61 (75.3%)	22 (81.5%)	395 (65.6%)	328 (56.9%) <sup>2</sup>	1,148 <sup>3</sup> (65.6%)
<b>Mail Surveys Returned</b>		132	99	40	13	263	219	766
<b>Mail Survey Response Rate</b>		68.4%	66.4%	65.6%	59.1%	66.6%	66.8%	66.7%

**Table 2.** Sampling Days and Intercept and Mail Survey Response Rates<sup>1</sup>One survey was missing the date it was completed<sup>2</sup>Of the 887 overlook respondents, 311 were not asked if they would like to do a mail survey<sup>3</sup>Of the 2,306 visitors contacted, 555 (24.1%) were not asked to participate in the mail survey because they refused the intercept survey (n=244; 10.6%) or were overlook visitors who indicated that they were just passing through or going to work (n=311; 13.5%). Of the 1,751 who were asked if they would do a mail survey, 581 (33.2%) said no and 1,170 (66.8%) said yes. Of those who said yes, 22 (1.9%) gave invalid addresses (undeliverable).

## Results

### Survey Response

As shown in Table 1, there were 27 locations where the intercept surveys were administered. Of the 2,306 respondents contacted, 2,062 (89.4%) agreed to be interviewed (Table 2). This included 83% (n = 602) at visitor centers, 90% (n = 887) at overlooks, and 96% (n = 573) at recreation sites.

Of the 2,062 respondents who agreed to the intercept interview, 1,751 (84.9%) were asked if they would be willing to receive and complete the follow-up mail-back survey. Overall, 555 respondents were not asked if they would be willing to participate in the mail survey because they refused to participate in the intercept survey (n = 244) or they were overlook visitors who told the interviewer that they were just passing through or commuting to work (n = 311), allowing the visitor to skip the section asking for mailing information

and participation in the mail survey. Of the 1,170 (66.8%) respondents who said they would be willing to complete a mail survey (581 refused), 1,148 gave the interviewer their name and a useable mailing address. Of those, 766 respondents completed and returned the survey for a response rate of 67.6% (Table 2).

### Demographics

Of the 2,062 visitors who participated in the intercept survey, about 67% (n = 1,382) were males. The average age of all survey participants was 50 years. Visitors to the Monument came from throughout the United States and the world. International visitors comprised about 23% (n = 471) of the sample, and of this, 38.2% were from Germany (n = 180), 12.7% from the Netherlands (n = 60), and 9.1% from Canada (n = 43).

Of the 2,050 respondents who indicated their place of residence, 14.2% (n = 290) of the intercept visitors were from Utah, 12.9% (n = 265)

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from California, 5.8% (n = 118) from Arizona, 4.9% (n = 100) from Colorado, and 9.5% (n = 194) from other western states (Nevada, Montana, New Mexico, Oregon, Idaho, Washington, Wyoming, and Alaska). The rest of the visitors were from 39 other states (n = 607; 29.6%). All together, the sample included visitors from all 50 states and the District of Columbia. Of those visitors who were from Utah, 10.3% (n = 30) resided within either Kane or Garfield counties and would be considered local residents to the Monument area. The top three Utah counties represented were Salt Lake (n = 95; 32.8%), Utah (n = 35; 12.1%), and Washington (n = 33; 11.4%). Those three counties contain 60.8% of the state's population and accounts for 56.3% of in-state visitors while Garfield and Kane counties have only 0.5% of the state's population and accounts for 10.3% of Front Country visitors.

When visitors were asked how many people were in their group for the trip, 12.6% (n = 223) said they were alone, 56.3% (n = 996) indicated a group size of two, 20.7% (n = 366) said three or four, 6.2% (n = 109) indicated five or six, and 4.2% (n = 75) said seven or more. Following a

similar pattern, when asked how many people were traveling in the same vehicle as the respondent, the majority (n = 1,018; 57.6%) of respondents said that there was a total of two people traveling in the same vehicle.

Respondents were also asked if this was the first time they had visited the Monument. Slightly more than sixty percent (60.6%; n = 1,062) indicated they were first time visitors. When first time visitors were asked what they expected to see and experience during their visit to the Monument area, 572 (54.5%) gave a response concerning natural features, 463 (44.1%) said landscape and scenery, and 151 (14.4%) had no expectations or did not expect anything (respondents were given the opportunity to provide multiple answers).

### *Knowledge of the Monument's Management Agency*

Visitors were asked if they had heard of the Grand Staircase-Escalante National Monument and 88.0% (n = 1,814) said they had heard of it (Table 3). Of those 1,814, 1,806 were then asked if

		<i>Overall</i>	<i>Utah</i>	<i>Other States</i>	<i>International</i>
Heard of GSENM?	Yes	88.0%	97.9%	90.9%	73.8%
	No/Unsure	12.0%	2.1%	9.1%	26.2%
If yes, do you know which agency manages GSENM?	Yes	58.7%	71.6%	62.7%	35.1%
	No/Unsure	41.3%	28.4%	37.3%	64.9%
Bureau of Land Management (BLM) <sup>1</sup>		74.3%	82.4%	73.8%	64.5%
National Park Service (NPS)		11.8%	5.9%	12.3%	19.0%
Department of the Interior		3.4%	2.0%	3.8%	1.7%
U.S. Government		2.5%	2.5%	2.6%	2.5%
Forest Service		1.9%	3.4%	1.8%	0.0%
State Parks		1.5%	0.5%	1.0%	6.6%
Other Agencies or Combined Agencies		4.6%	3.3%	4.7%	5.7%

Table 3. Knowledge of the GSENM's Management Agency

<sup>1</sup>38.2% (788 out of 2,062) of respondents had heard of GSENM, indicated they knew which agency managed it, and correctly identified the BLM as the management agency.

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they knew the agency that manages the Monument and 58.7% (n = 1,061) said yes (eight responses were not recorded). When those 1,061 visitors were asked to identify the agency, 74.3% (n = 788) correctly identified the BLM. In other words, only 788 (38.2%) of the 2,062 respondents had heard of the Monument and indicated they knew which agency managed it and correctly identified the BLM as the management agency (Table 3). Noteworthy is that about one-quarter of the international visitors (26.2%) indicated they had not heard of the GSENM or were unsure if they had heard of it. Also noteworthy is that almost 65% of international visitors did not know which agency was responsible for the management of the Monument, while over one-third (37.3%) of the visitors from other states didn't know, and over one-fifth (28.4%) of Utahns didn't know.

### *Monument and Trip Information Sources*

Visitors who had heard of the Monument were asked how they first found out about the Monument. As shown in Table 4, the most frequently mentioned information source for first hearing about the Monument were reports about the initial designation by President Clinton's proclamation in 1996 (20.6%), followed by maps and brochures (16.2%), guidebooks (13.5%), and friends or family (11.5%). However, 15.4% (n = 272) of the

visitors gave a response other than the response categories listed on the survey. The other sources of information where visitors first heard about the Monument are organized into several general categories: clubs (n = 4; 1.5%), community (n = 21; 7.7%), do not know (n = 18; 6.6%), educational sources (n = 15; 5.5%), familiar with the area (n = 35; 12.9%), media sources (n = 51; 18.8%), miscellaneous answers (n = 6; 2.2%), Monument designation (n = 10; 3.7%), personnel in surrounding areas (n = 7; 2.6%), planning for the trip (n = 6; 2.2%), travel agency/information center (n = 20; 7.4%), travel literature/literature about the area (n = 24) 8.8%), and traveling (n = 67; 24.6%).

Interestingly, but perhaps not surprising, over half of the Utahns (52.3%) indicated they first found out about the Monument through the media blitz surrounding the original Clinton designation, compared to 17.5% of visitors from other states and only 4.2% from other countries (Table 4). Maps and brochures were not used much as the initial information source by Utahns (3.6%) compared to visitors from other states (18.4%) and countries (19.3%). Similarly, less than one percent of Utahns first found out about the Monument from internet sources compared to 7.3% from other states and 10.9% from other countries. More than one-third of international visitors (35.3%) used a guidebook compared to less than one percent of Utahns. Also, Utahns were more likely to have first heard of the Monument from friends

<i>Information Source</i>	<i>Overall (n=1,761)</i>	<i>Utah (n=279)</i>	<i>Other States (n=1,141)</i>	<i>International (n=331)</i>
Clinton Designation	20.6%	52.3%	17.5%	4.2%
Maps/Brochures	16.2%	3.6%	18.4%	19.3%
Guidebook	13.5%	0.4%	10.3%	35.3%
Friends/Family	11.5%	15.8%	12.0%	6.3%
Internet	6.9%	0.7%	7.3%	10.9%
Driving By/Road Signs	6.9%	5.0%	7.7%	5.7%
Magazine	4.0%	0.7%	4.9%	3.9%
Newspaper	2.9%	5.0%	2.6%	2.1%
Visitor Center	2.2%	0.0%	2.7%	2.1%
Other	15.4%	16.5%	16.5%	10.0%

Table 4. Information sources used to first find out about the Monument (respondents checked only one information source).

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and family (15.8%) than visitors from other states (12.0%) and international visitors (6.3%).

When respondents were asked what sources of information they had used to plan their *current* Monument trip, the largest percentage of responses were in the maps/brochures (29.1%) and guidebook (29.1%) categories (Table 5). Almost one quarter received information at a visitor center, while 23.1% utilized the internet. Other frequently mentioned sources were knowledge based on previous trips (16.3%), friends and family (12.5%) and driving by or road signs (7.4%). For this question, visitors were allowed to give more than one response as to what sources of information they had utilized. Again, for this question, visitors were allowed to give answers other than those provided on the survey and these responses (n = 325) were organized into several general categories: clubs (n = 3; .9%), community (n = 44; 13.5%); do not have any information (n = 38; 11.7%), educational sources (n = 12; 3.7%), familiar with the area (n = 28; 8.6%), media sources (n = 23; 7.1%), personnel in surrounding areas (n = 14; 4.3%), travel agency/information center (n = 80; 24.6%), travel literature/literature about the area (n = 40; 12.3%), and traveling (n = 46; 14.2).

In planning for their trip, Utahns were more likely to find previous trip experience to the area more useful (33.5%) than visitors from other states (14.6%) and countries (7.9%) (Table 5). Also, word-of-mouth information from friends and family was an important source of information for Utahns (22.5%) compared to those living in other states (11.2%) and countries (7.9%). More than half of international visitors (50.9%) used guidebooks compared to about one-quarter of visitors from other states and 13.7% of Utahns. Similarly, international visitors (30.2%) and visitors from other states (24.0%) used internet sources for trip planning compared to only 10.6% of Utahns. Maps and brochures also appear to be important trip planning aids for all visitors.

In comparing first time visitors to repeat visitors to the Monument, there are differences evident in the sources of information where the visitor *first* found out about the Monument. First time visitors were more likely to say maps/brochures (n = 174; 19.8%) or guidebooks (n = 165; 18.8), while repeat visitors were more likely to say the Clinton designation (n = 239; 37.2%) or friends/family (n = 72; 11.2%) (Table 6).

Information Source	Overall (n=1,803)	Utah (n=284)	Other States (n=1,166)	International (n=342)
Maps/Brochures	29.1%	17.6%	32.4%	26.6%
Guidebook	29.1%	13.7%	26.5%	50.9%
Visitor Center	23.8%	22.2%	24.9%	21.6%
Internet	23.1%	10.6%	24.0%	30.2%
Previous Trip Experience	16.3%	33.5%	14.6%	7.9%
Friends/Family	12.5%	22.5%	11.2%	7.9%
Driving By/Road Signs	7.4%	9.2%	8.1%	3.8%
Magazine	4.5%	1.1%	6.1%	1.8%
Government Agency Office	2.6%	3.9%	2.5%	1.8%
Newspaper	1.4%	1.4%	1.6%	0.6%
Other	18.0%	18.0%	19.8%	12.3%

Table 5. Where did you get information about the Monument to plan this particular trip? (Respondents could select more than one information source).

	<b>First Time Visitors (n=878)</b>		<b>Repeat Visitors (n=643)</b>	
	percent	n	percent	n
Friends/Family	12.8%	112	11.2%	72
Driving By/Road Signs	4.8%	42	9.5%	61
Maps/Brochures	19.8%	174	8.1%	52
Magazine	5.2%	46	2.5%	16
Newspaper	1.8%	16	4.4%	28
Guidebook	18.8%	165	5.3%	34
Internet	8.8%	77	2.8%	18
Visitor Center	2.8%	25	1.1%	7
Clinton Designation	11.2%	98	37.2%	239
Other	14.0%	123	18.0%	116

Table 6. Comparison of first time and repeat visitors first finding out about the Monument.

When comparing first time visitors with repeat visitors to the Monument, first time visitors were more likely to use guidebooks (n = 299; 33.3%), maps/brochures (n = 283; 31.5%), visitor centers (n = 254; 28.3%), and the internet (n = 220; 24.5%) when they *planned* their trip, while repeat visitors were more likely to rely on information from a previous trip/experience (n = 237; 35.8%), maps/brochures (n = 162; 24.5%), guidebooks (n = 161; 24.3%), and visitor centers (n = 150; 22.7%) (Table 7).

### Visitation

Visitors were asked how long they were planning to stay in the Monument area. Of the 1,727 who answered this question, 87.6% (n = 1,513) were staying one day or more while the rest were only visiting from one to twelve hours. Of those staying one day or more, 29.1% indicated they were only staying one day, 20.7% indicated they were staying two days, 32.1% said three, four, or five days, 18.1% indicated they were staying 6 or more days. Visitors who indicated they were staying one day or longer, on average, stayed 3.6 days visiting the Monument. Of the 214 visitors who said that they were visiting the Monument for less than one day, 74.8% indicated they were staying for four hours or less, with the other 25.2% staying 5 to 12 hours. The average amount of hours these visitors visited the Monument was 3.4 hours.

Visitors were also asked why they were visiting the Monument area. Recreation was the primary reason by far with 77.2% (n = 1,566) of visitors providing this response. However, 57.1% (n = 1,158) of the visitors responded they were visiting for recreation but that the Monument was not their primary destination; and 20.1% (n = 408) responded they were visiting for recreation and the Monument was their main destination (Table 8).

The 1,158 visitors who said the Monument was not their main destination were asked what their main destination was. The most frequently mentioned response for this question was a tour of the National Parks (n = 370; 32.0%). Interestingly, 87 (7.5%) of the visitors responded they had no real main destination or were just traveling. The next most frequently mentioned responses were Bryce Canyon National Park (n = 70; 6.0%), southern Utah (n = 63; 5.4%), both Bryce Canyon and Zion National Parks (n = 43; 3.7%), a tour of the Southwest (n = 37; 3.2%), Grand Canyon National Park (n = 28; 2.4%), a tour of the West (n = 27; 2.3%), Capitol Reef National Park (n = 22; 1.9%), both Bryce Canyon and Capitol Reef National Parks (n = 17; 1.5%), Lake Powell (n = 14; 1.2%), and Las Vegas, NV (n = 14; 1.2%).

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	First Time Visitors (n = 899)		Repeat Visitors (n = 662)	
	percent	n	percent	n
Friends/Family	13.1%	118	13.0%	86
Driving By/Road Signs	7.0%	63	8.9%	59
Maps/Brochures	31.5%	283	24.5%	162
Magazine	5.9%	53	3.2%	21
Newspaper	1.7%	15	1.5%	10
Guidebook	33.3%	299	24.3%	161
Internet	24.5%	220	20.4%	135
Visitor Center	28.3%	254	22.7%	150
Government Agency Office/Personnel	2.7%	24	3.5%	23
Previous Trip/Experience	3.0%	27	35.8%	237
Other	18.7%	168	16.9%	112

Table 7. Comparison of first time and repeat visitors on information sources for current trip.

### *Importance-Performance Analysis*

The purpose of Importance-Performance (I-P) analysis is to have visitors rank various aspects of their trip for 1) the importance each aspect is for a satisfying recreational experience, and 2) their actual satisfaction with each aspect (perception of performance). We included two broad sets of questions on the mail survey instrument: 24 items related to Monument management, and 14 items related to other visitor facilities and services in local communities and on other public lands.

Questions dealing with the importance of items related to the overall quality of visitors' recreation experience asked respondents, "How important to you are each of the following items when visiting the Monument?" Responses to this question were on a scale where: 1="Not Important," 2="Somewhat Important," 3="Important," 4="Quite Important," and 5="Very Important." Questions dealing with the overall quality of visitors' recreation experience asked respondents, "please rate how satisfied you were with the following items during your actual visit to the Monument." Responses to this question were on a scale where: 1="Not Satisfied," 2="Somewhat Satisfied," 3="Satisfied," 4="Quite Satisfied," and 5="Very Satisfied." This question also contained a

"N/A" check box for respondents who had not had experience with a particular item during their trip.

Questions dealing with the importance of services asked respondents, "How important to you are each of the following services when visiting the Monument area?" Responses to this question were on the same importance scale mentioned above. Questions dealing with visitor satisfaction with services asked respondents, "please rate how satisfied you were with the following services during your actual visit to the Monument area." Responses were scored on the same satisfaction scale as the Monument recreation quality questions referred to in the previous paragraph.

### *Importance-Performance Analysis Summary*

Below are summary I-P diagrams of the importance and satisfaction mean score ratings for all Monument management (Figure 2) and other local services and community services (Figure 3) items. The dotted lines represent the grand means for the importance (horizontal) ratings for all respondents, and satisfaction (vertical) ratings for respondents that had experience with the items in that figure. Thus, the means are just a guideline to help visually illustrate the differences between all the items on both scales simultaneously.

	<i>Overall</i>	<i>Survey Type</i>		
		<i>Recreation Sites (n = 568)</i>	<i>Visitor Centers (n = 591)</i>	<i>Overlooks (n = 870)</i>
Primarily for recreation - the Monument is my main destination	20.1%	37.9%	21.8%	7.4%
Primarily for recreation - but my main destination is NOT the Monument	57.1%	56.0%	65.0%	52.4%
Primarily for business, family, or other reason; the Monument was a side trip	2.4%	3.3%	3.7%	0.8%
Working or commuting to work (overlook only)	0.1%	0.0%	0.2%	0.1%
Just passing through (overlook only)	15.2%	0.0%	0.0%	35.4%
Other	5.2%	2.8%	9.3%	3.9%

Table 8. Reasons for visiting the Monument

In the simplest interpretation of the I-P diagrams, each quadrant represents a different management implication. Items in the lower right quadrant are generally the highest because they are relatively high on the importance scale and low on the satisfaction scale, that is, management should “concentrate efforts here” (Figure 1). Items in the upper right are those that have relatively high importance and satisfaction scores (“keep up the good work”), those in the upper left are below the mean in importance but above the satisfaction mean (“possible overkill”), and those in the lower left are low on both scales (“low priority”). These interpretations are oversimplified however, as the following summary explains.

### Importance-Performance, Monument Management

The I-P questions related to Monument management included 24 items in six categories: signage, naturalness, services, infrastructure, education, and information. Note especially five items in the upper right quadrant, “keep up the good work” (Figure 2): Brochures and Maps (A), Helpfulness of Monument Employees (W), Cleanliness

of Restroom Facilities (V), Conditions of Monument Trails (Q), and Safety Information (X) that have high levels of importance and satisfaction. There are three items in the “concentrate efforts here” quadrant: Monument Trailhead Markers (P), Directional Signs to Monument Destinations (O), and Wildlife related information (K). In addition to these, a more detailed analysis suggests several other areas that need management attention. For example, item J was rated low on importance and satisfaction, which would suggest that, from a visitor standpoint, paleontology is not important nor done well. Given the importance of paleontology in the Monument Proclamation and science program, however, a lack of interest on the part of the public does not mean it should be downplayed by management, and if anything, it also suggests much more attention needs to be put on paleontology education in the future. It is also possible that the word “paleontology” was unfamiliar to some visitors, and that may have been reflected in relatively low importance rankings than if the survey had said “dinosaurs and other topics of prehistory.”

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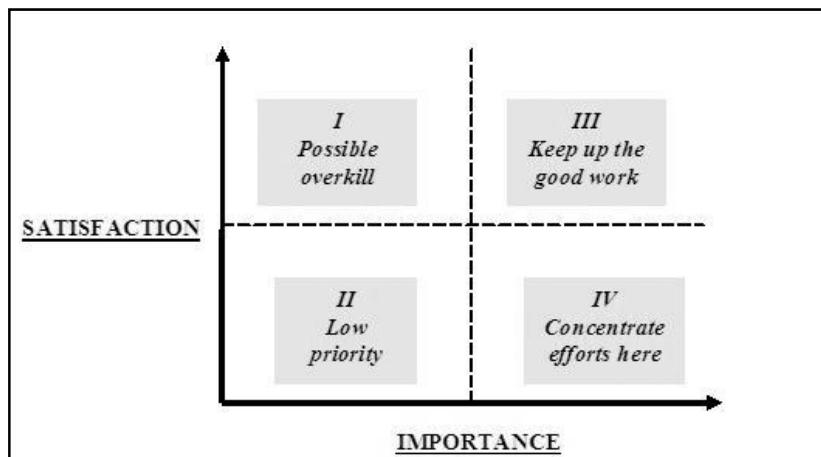


Figure 1. Importance/Satisfaction Model

There is also a relatively large cluster of items near the axis of the scale means. Many of these items are also related to natural history and signage. For example G, H, I, and L are natural history topics (history, geology, archeology, and plants), and N is about signs (Directional Signs to Visitor Centers), F is about History of the Monument Area, and D is about Information about Recreation Opportunities. Thus the I-P results suggest improvements are needed most in the areas of signage, education/interpretation, and information. Changes related to the educational needs, such as new visitor centers and environmental education programs, were being developed or were newly implemented at the time of the survey, but the I-P results also suggest that better trailhead and destination information signs should also be a priority for the future. The results of this analysis should be used to evaluate the effectiveness of these management related changes in the future. It should also be noted these I-P results represent a “macro” approach, representing visitors’ perceptions of importance and satisfaction with general, overall management items, and not site-specific items.

### Importance-Performance, Other Community and Local Services

Unlike the results for the Monument management items, there is a fairly linear relationship between the importance and satisfaction scores for the 14 community service items (Figure 3). That is, as importance levels increase, satisfaction tends to increase as well. And while dissatisfaction

seems to be quite low for visitors who actually used various types of services (none of the items had more than 10% of those who used the services and said they were important and also said they were only “Somewhat Satisfied” or “Not Satisfied”), satisfaction was also not very high for many services other than State, USFS, and NPS Campgrounds (C), Lodging Services (A), and Monument Visitor Information Services (N) in the upper right quadrant. Conversely, Eating and Drinking Establishments (E), Grocery and Convenience Stores (F), and Emergency Medical Services (L) seem to need the most attention, based on their relatively high importance and low satisfaction scores.

Unlike the Monument management items, there are a relatively high number of items in the “low priority” category (lower left quadrant), including Privately Owned Campgrounds (D), Sporting Goods and Outdoor Equipment Stores (H), Souvenir Stores, Gift Shops, and Galleries (I), and Guide and Outfitting Services (J). While this partially reflects the fact that relatively few people need or use these services, these findings, especially the relatively low satisfaction ratings, are important for local economic development in the communities. The results could reflect the relative newness of the Monument and the lack of experience of these businesses serving the number and diversity of visitors attracted by the new Monument. While national and state parks have traditionally attracted tourists to the area, the effect of the new Monument may be to hold and disperse

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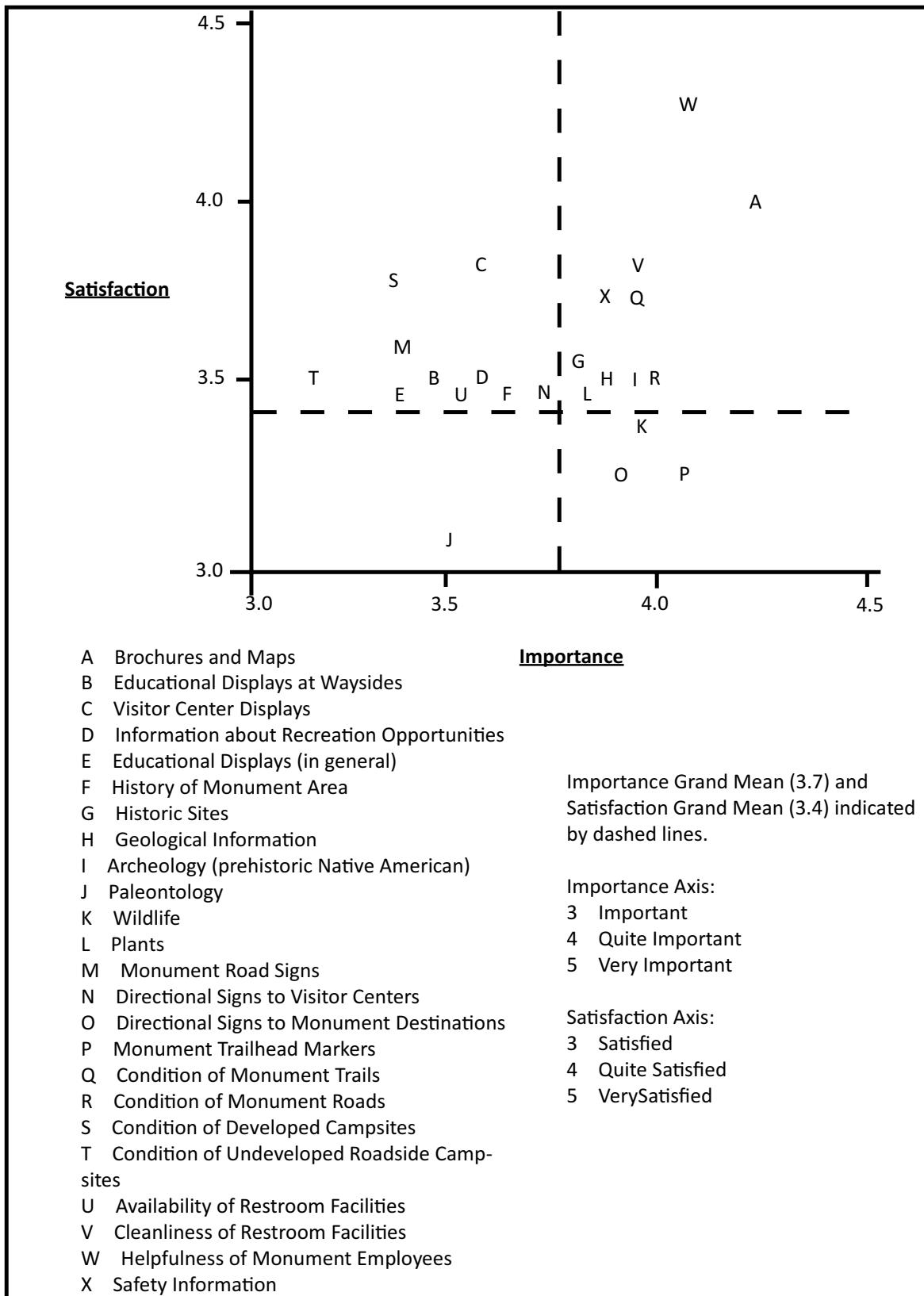


Figure 2. I-P Monument Management Summary Diagram

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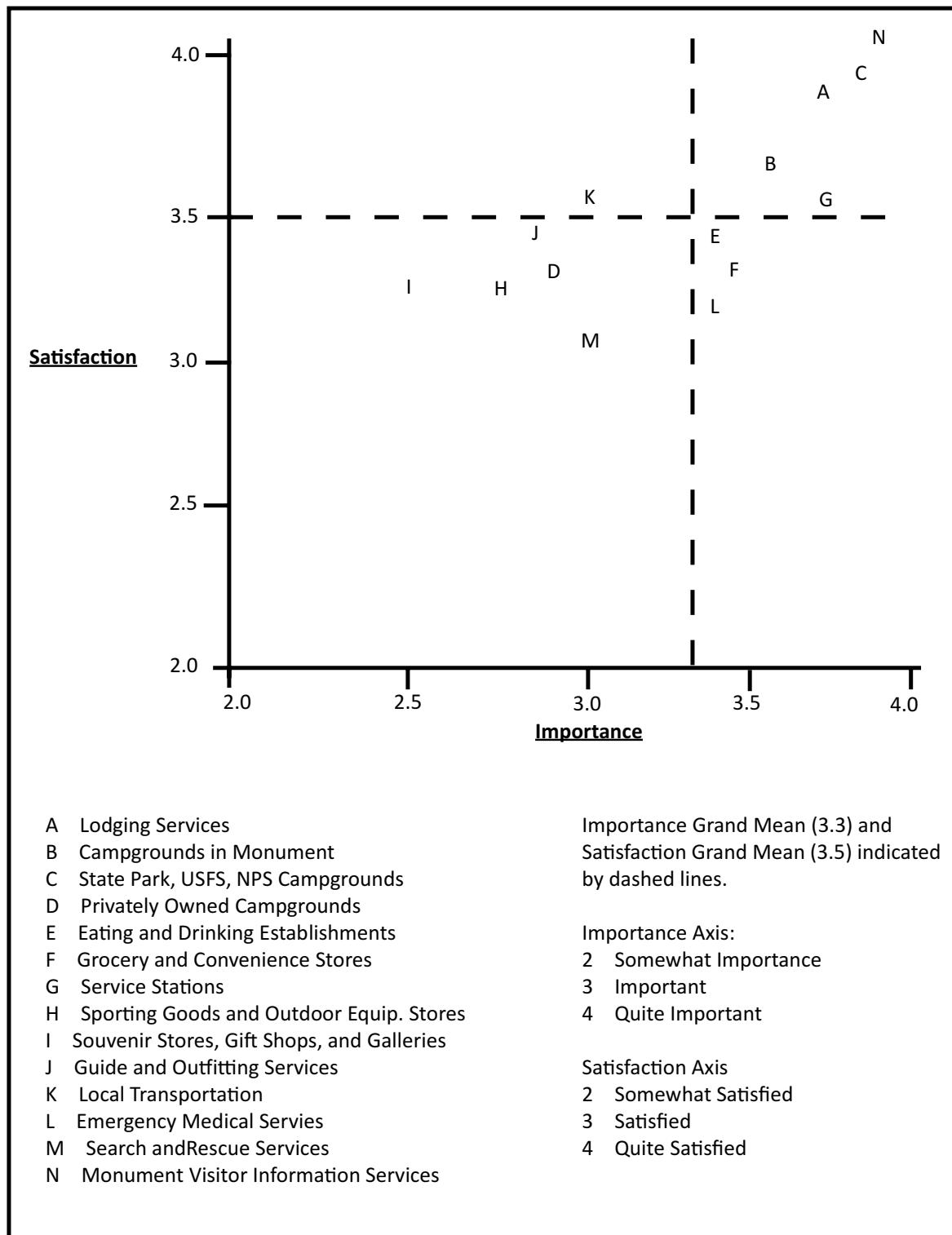


Figure 3. I-P Community and Other Local Services Summary Diagram

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visitors for longer periods in more communities having less experience with visitors than in the past. So for example, rather than most visitors to Bryce Canyon National Park staying in the national park campgrounds or Ruby's Inn, now visitors are also stopping at Monument sites and staying in Boulder, Escalante, Cannonville, Tropic, and other towns that had little overflow business before.

This interpretation is also supported by the items located in the upper right quadrant, which identifies successful service items – Agency Operated Campgrounds (B and C), Service Stations (G), and Lodging Services (A) – all services that would be expected to have had more experience with past tourism, the pass-through type tourist, and more traditional types of visitors, compared to sporting goods stores, outfitters, and souvenir shops in many of the small towns in the region.

Finally, the last item in the lower left quadrant “Search and Rescue Services” (M), is difficult to interpret. Very few respondents, if any, would have had experience with search and rescue services, yet there were as many who said they used this service (n=63) as said they used “Emergency Medical Services” (L) (n=74). It is possible many of these are the same respondents to both items, and that some do not understand the difference between these two services – search and rescue operations are not offered in many parts of the U.S. and other countries. Regardless of the accuracy of response to this question, however, it is still a concern that visitors rated medical services relatively low, and Monument staff and local community officials should investigate these potential concerns.

### *Visitor Expenditures and Economic Impact in the Monument Area*

On the mail survey, respondents were asked to indicate their group's total monetary expenditure in the Monument area and surrounding communities for the trip in which they filled out the intercept survey. Eleven visitor service categories were listed (along with an “Other expenditures” category) and respondents were asked to list a dollar amount next for each. Of the 766 who returned the mail survey, 735 (95.9%) answered this question.

Following are two primary sets of analysis: 1) expenditures by respondents' location of residence, and 2) an IMPLAN analysis that demonstrates the broader contribution of these expenditures to the economy and employment of Garfield and Kane Counties.

### *Expenditures by Respondents' Location of Residence*

As shown on Table 9, total average amount spent per group in the Monument area was just under \$500. Average international group expenditures (\$614.90) were almost \$260 more than Monument visitors from Utah (\$356.14) and about \$115 more than visitors from other states (\$500.43). When comparing average amount spent by Utahns with visitors from other states and countries, some interesting patterns begin to emerge. Groups from other states spent about twice as much on lodging compared to Utahns, and international visitors spent nearly three times more than Utahns. Domestic visitors (including Utahns) spent more on privately owned campgrounds than international visitors. Utahns spent less on average for restaurant meals (\$75.25) than visitors from other countries (\$135.29) and other states (\$108.57). There is a similar pattern in purchases from grocery and convenience stores with Utahns spending about \$38 compared to internationals at \$68 and those from other states at about \$45. However, Utahns spent about \$15 more for fuel than those in the other two groups. Visitors from other states spent more on souvenir and gift shop purchases (\$42.05) than Utahns (\$15.45) and international visitors (\$29.00).

The summary statistics presented in Table 10 also show some interesting contrasts. Visitors to the Monument who reside in Utah tended to spend less on their trip (both median and mean values) than their counterparts in other states and countries. Of the 766 who returned the mail survey, 31 (4.0%) did not answer any expenditure questions, so they were eliminated from the data set, thus resulting in a sample size of 735. The total amount of money spent in the Monument area by our 735 respondents was \$363,538. Utahns made up 14.6% of the respondents and contributed 10.6% to the total expenditures whereas international visitors

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<i>Expenditure Categories</i>	<i>Overall (n = 735)</i>	<i>Utah (n = 108)</i>	<i>U.S.A (n = 528)</i>	<i>International (n = 99)</i>
Lodging Services	\$164.29	\$83.21	\$167.33	\$236.52
Campgrounds in Monument	\$3.85	\$3.79	\$3.77	\$4.36
State Park USFS/NPS Campgrounds	\$13.37	\$14.56	\$13.39	\$12.01
Privately Owned Campgrounds	\$8.65	\$6.48	\$10.21	\$2.73
Eating and Drinking Establishments	\$107.28	\$75.25	\$108.57	\$135.29
Grocery and Convenience Stores	\$47.16	\$38.18	\$45.01	\$68.40
Service Stations (Fuel)	\$65.42	\$78.64	\$63.04	\$63.64
Sporting Goods/Outdoor Equipment	\$10.13	\$9.17	\$9.37	\$15.29
Souvenir, Gift Shops, Galleries	\$36.39	\$15.45	\$42.05	\$29.00
Guide and Outfitting Services	\$19.96	\$11.57	\$19.20	\$33.13
Local Transportation	\$0.65	\$1.39	\$0.54	\$0.45
Other	\$17.64	\$18.63	\$18.11	\$14.07
<b>Total Average Expenditures</b>	<b>\$494.65</b>	<b>\$356.14</b>	<b>\$500.43</b>	<b>\$614.90</b>

Table 9. Average amount of money spent per group in Monument and surrounding area.

	<i>Overall</i>	<i>Utah</i>	<i>Other U.S.</i>	<i>International</i>
Median	\$324.00	\$212.50	\$347.50	\$324.00
Mean	\$494.65	\$356.14	\$500.43	\$614.90
Standard Deviation	\$597.20	\$455.41	\$571.57	\$804.51
Sum (percent of overall)	\$363,565.00 (100%)	\$38,463.00 (10.6%)	\$264,227.00 (72.2%)	\$60,875.00 (16.7%)
Respondents (percent of overall)	735 (100%)	108 (14.6%)	528 (71.8%)	99 (13.4%)
Individuals (percent of overall)	2,079 (100%)	514 (24.7%)	1,318 (63.4%)	247 (11.9%)

Table 10. summary statistics of group expenditures in Monument area.

made up 13.4% of the respondents and contributed 16.7% to the total expenditures. However a more marked discrepancy occurs when examining number of individuals that were in the respondents' groups. Respondents from Utah reported the expenditures were for larger size groups (mean = 4.8, median = 3.0) than those from out of state (mean = 2.5, median = 2.0 for both other states and international visitors). Thus, the 735 respondents gave expenditure information for 2,079 individuals (Table 10, bottom row). Expenditures for individuals traveling with the Utah respondents accounted for 24.7% of all individuals and contributed 10.6% to the total amount spent compared to 16.7%

contributed by international visitors and 72.2% by out-of-state American visitors.

It is important to point out that most respondents made purchases in several service sectors and very few (if any) spent money in all sectors. As shown in the last row on Table 11, 4.2% (n=31) indicated they did not spend any money in the Monument area during that trip. An interesting finding, but not necessarily surprising is that about two-thirds of visitors from other states and countries spent money on lodging services compared to 38.5% of Utahns. Visitors from other states were more likely to stay in privately owned camp-

Expenditure Categories	Overall (n = 735)		Utah (n = 109)		U.S.A (n = 527)		International	
	\$0	>\$0	\$0	>\$0	\$0	>\$0	\$0	>\$0
Logging Services	40.7	59.3	61.5	38.5	38.3	61.7	30.3	69.7
Campgrounds in Monument	89.0	11.0	89.0	11.0	89.0	11.0	88.9	11.1
State Park/USFS/NPS Campgrounds	72.2	27.8	73.4	26.6	71.9	28.1	72.7	27.3
Privately Owned Campgrounds	90.5	9.5	95.0	5.0	88.6	11.4	94.9	5.1
Eating and Drinking Establishments	17.8	82.2	22.0	78.0	16.9	83.1	18.2	81.8
Grocery and Convenience Stores	24.2	75.8	21.0	79.1	24.7	75.3	25.3	74.7
Service Stations (Fuel)	12.1	87.9	9.2	90.8	12.2	87.8	15.2	84.8
Sporting Goods/Outdoor Equipment	83.3	16.7	84.4	15.6	83.9	16.1	78.8	21.2
Souvenirs, Gift Shops, Galleries	52.0	48.0	67.9	32.1	49.0	51.0	50.5	49.5
Guide and Outfitting Services	92.9	7.1	95.4	4.6	92.6	7.4	91.9	8.1
Local Transportation	98.5	1.5	99.1	0.9	98.3	1.7	99.0	1.0
Other	86.8	13.2	87.0	13.0	86.9	13.1	85.9	14.1
All Categories	4.2	--	2.8	--	4.2	--	6.1	--

**Table 11.** Percent of respondents who did not spend money in Monument area compared with those who spent some amount.

grounds (11.4%) than Utahns and international visitors (about 5% each). The percent of visitors who spent money in restaurants and grocery stores was about the same for Utahns, international, and domestic visitors (about 75% or higher). However, while about half of the international and domestic visitors made purchases in souvenir or gift shops, less than one-third of Utahns made similar purchases (Table 11).

In order to get a more realistic estimate of average expenditures for each category, mean and median values were calculated without including respondents who indicated they did not spend any amount in the different service sectors. As shown in Table 12, of the 436 (59.3%) respondents who spent money on lodging services, the average amount spent was \$277. Average expenditures for privately owned campgrounds (\$91) were about \$40 to \$55 more than the amount spent on public campgrounds. About three-quarters of the respondents spent an average of about \$131 to eat out in restaurants for a total of almost \$79,000. For those who contracted with local guide and outfitting companies (7.1%), the average was \$282 with a median value of \$100 and a total amount spent

of \$14,668. The largest amount of money spent in the Monument area by visitors was for lodging (\$120,753), followed by meals in restaurants (\$78,848), fuel at service stations (\$48,016), items purchased in grocery and convenience stores (\$34,660), purchases at souvenir and gift shops (\$26,743), and guide services (\$14,668).

### Input-Output Economic Analysis (IMPLAN)

This research was not designed to measure economic impacts of visitors to the area on local or state economies. The expenditure items, described above, were intended to provide insight into what items are purchased in local businesses by Monument visitors. However, by inputting the data into an economic analysis model, the resulting output can help further the understanding of economic relationships between tourism spending and local economic viability.

The impact that a recreation activity has on an economy is different than total amount spent pursuing that activity. A dollar spent at point of purchase moves through the economy and affects

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Expenditure Categories	Mean	Median	Range		Respondents		Sum
			Low	High	% of 735	n	
Lodging services	\$277	\$185	\$10	\$3,000	59.3%	436	\$120,753
Campgrounds in Monument	\$35	\$16	\$4	\$200	11.0%	81	\$2,827
State Park USFS/NPS Campgrounds	\$48	\$21	\$2	\$800	27.8%	204	\$9,819
Privately Owned Campgrounds	\$91	\$60	\$4	\$500	9.5%	70	\$6,359
Eating and Drinking Establishments	\$131	\$80	\$3	\$2,000	82.2%	604	\$78,848
Grocery and Convenience Stores	\$62	\$40	\$2	\$1,500	75.8%	557	\$34,660
Service Stations (Fuel)	\$74	\$50	\$10	\$750	87.9%	645	\$48,016
Sporting Goods/Outdoor Equipment	\$61	\$40	\$1	\$800	16.7%	123	\$7,449
Souvenir, Gift Shops, Galleries	\$76	\$50	\$2	\$1,200	48.0%	353	\$26,743
Guide and Outfitting Services	\$282	\$100	\$5	\$3,000	7.1%	52	\$14,668
Local Transportation	\$44	\$30	\$10	\$150	1.5%	11	\$479
Other	\$133	\$50	\$3	\$1,000	13.2%	97	\$12,49
All Expenditures	\$516	\$340	\$4	\$6,000	95.8%	704	\$363,565

Table 12. Mean, median, and total expenditures for groups who spent money.

employment and income beyond area of purchase. Estimating impacts that tourist expenditures have on local counties helps inform those involved with formulating policy as to potential consequences of their decisions.

An Input-Output (I-O) analysis model was used to assess the economic impact on Garfield and Kane Counties for visitors who indicated that the Monument was their main destination. The computer model "Impact Analysis for Planning" (IMPLAN) was used as the analytical tool. That model is used for either analytical or predictive estimates for economic impacts and has been previously utilized to conduct economic impact analysis of recreation (McCoy et al., 2001).

When forecasting economic impacts using a predictive model, it is important to define whose

expenditures are included, why those expenditures are more important than others, and purchase location. It is obvious there are a variety of motivations for Monument area visitation, from taking the wrong road to traveling specifically to experience the unique features of the Monument. If GSENM did not exist as a management unit, visitors would still be coming through and stopping to make purchases at local businesses. Therefore, rather than examining local expenditures of all visitors to the area, it may be of more interest to look at the local economic contribution for those who came specifically to see the Monument. In other words, treat the Monument as a tourist destination to help understand its designation effect on local county economies. This means that the analysis below focuses on those who indicated that the Monument was their main destination and they stopped in Garfield and Kane communities.

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Of the 766 who returned the mail survey, 31 (4.0%) did not answer any expenditure questions so they were eliminated from the data set, thus resulting in a sample size of 735. Of these, 29 did not indicate where they stopped and 9 stopped only in Coconino County, Arizona, so these were eliminated from the data set as well. That left 697 respondents who made stops in Kane and/or Garfield counties with an average party size of 2.82 and a total of 1,969 visitors.

The expenditure data were adjusted to amount spent per person, by dividing the amounts spent by number of people who had expenses. The amounts were also adjusted by whether they also stopped in Coconino County. If they stopped in Garfield and/or Kane counties, the expenditures were multiplied by one. If they stopped in Garfield or Kane and Coconino, the multiplier is 0.5. If they stopped in Garfield and Kane and Coconino, the multiplier is 0.67.

Of the 766 respondents, 697 (91.0%) said that they had stopped in one or both of the Utah counties and told us how much they had spent (including \$0). The 766 respondents identified their party size and/or the number of people the expenditures were for. In other words, the 766 respondents were giving us information about 2,155 visitors. The 697 respondents with the Utah stops were speaking for 1,969 visitors. So, we have per person Kane and Garfield expenditure data for 1,969 of 2,155 sample visitors or 91.4%. BLM estimates the number of visitors to Grand Staircase-Escalante National Monument in a year is 600,000. If we could have contacted all 600,000 visitors (population from which the sample is drawn), we assume that 91.4% or 548,400 would have stopped in Garfield and/or Kane counties and would be able to tell us how much they have spent.

Of those 697 respondents, 190 (27.6%) indicated that the Monument was their main destination. This is slightly higher than the results from the intercept survey respondents where 20.1% indicated the Monument was their main destination. This could perhaps be explained due to the fact that only about 7% of respondents contacted at overlook sites said the Monument was their main destination and they were less likely to indicate

they would be willing to complete a mail survey than those contacted at other sites. For purposes of INPLAN modeling, that 190 sub-sample represents an estimated population 149,492 (27.3% of 548,400) who filled out the expenditure questions on the mail survey instrument, indicated the Monument was their main destination, and stopped in Garfield and/or Kane County communities. The sample of 190 has a Confidence Interval of  $\pm 6.7\%$  at the 95% Confidence Level given the response rate of 67%.

The IMPLAN model produced county-level (Garfield and Kane) databases divided into three impact categories; Industry Output, Employment, and Value Added. Industry Output is the single number in dollars, or millions of dollars for each industry. The dollars represent the value of that industry's production. Employment is the single number of jobs for each industry given as full time equivalent jobs. Value Added is the aggregate of four components; employee compensation, proprietary income, other property type income, and indirect business taxes. Employee compensation is the total payroll costs including benefits. Proprietary income consists of income received by self-employed individuals. Other property type income examples include payments for rents, royalties, and dividends. Indirect business taxes include excise taxes, property taxes, fees, licenses, and sales taxes paid by businesses (taxes that occur during normal course of business but not profit or income tax).

The databases also account for the ripple or multiplier effect due to the initial increase in demand (the demand for a good will ripple through the economy until a new balance is achieved). The IMPLAN model uses three effects to measure economic impact; Direct, Indirect, and Induced effect. Direct effect is the production change associated with a change in demand for the good and is the initial effect on the economy. Indirect effect is a secondary impact caused by changing input needs of directly affected industries such as additional input needed to produce additional output. Induced effect is caused by changes in household spending due to additional employment generated by direct and indirect effects.

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		<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>
Output Industry Impact	Impact in Dollars	20,653,631	2,070,708	2,641,281	25,365,320
	No. of Industrial Sectors	21 (4.1%)	74 (14.4%)	83 (16.2%)	86 (16.8%)
Employment Impact	Impact in Jobs	434.8	40.9	46.1	521.8
	No. of Industrial Sectors	10 (1.9%)	52 (10.1%)	59 (11.5%)	70 (13.6%)
Value Added Impact	Impact in Dollars	9,883,993	1,105,146	1,555,766	12,544,844
	No. of Industrial Sectors	18 (3.5%)	72 (14.0%)	81 (15.8%)	81 (15.8%)

Table 13. Summary of IMPLAN model impacts.

In running the IMPLAN model, a Social Accounting Matrices (SAM) Type multiplier was used to simulate the ripple effect. A SAM Type multiplier is considered to be a realistic indicator since it takes into account all impacts of increased sales, jobs, or salaries as well as inter-institutional transfers resulting from the economic activity. The formula for calculating the SAM Type multiplier is to sum direct, indirect, and induced effects and divide that sum by the direct effects. Based on the overall results shown on Table 13, SAM Type multipliers for Industry Output is 1.23, Employment is 1.2, and Value Added is 1.27. It should be noted that each industry sector has a unique multiplier and what is calculated above is an overall average.

IMPLAN analysis analyzes impact categories by effects in 513 industry sectors. As summarized in Table 13, a population of 149,492 visitors to the Monument as their main destination and based on the average expenditure of our sample of 190, more than \$20.6 million would be directly spent in Kane and Garfield Counties in 21 different industrial sectors. This spending would directly support more than 430 additional full-time equivalent jobs with almost \$10 million in employment value added on. When considering the ripple effect through the economy by adding on indirect and induced effects, the total industry output impact would be about \$25.4 million in 86 sectors, employment would support more than 500 jobs in 70 sectors, and value added would increase the effect of that money by about \$12.5 million in 81 of 513 economic sectors (Table 13).

Interestingly, the Utah Division of Travel Development, Department of Community and Economic Development, estimated spending by travelers in Garfield County in 2003 to be \$32.5 million with 904 jobs in travel and tourism related employment; estimated spending by travelers in Kane County in 2003 was \$50.4 million with 1,012 jobs in travel and tourism related employment (Utah Division of Travel Development, 2005). Those 2003 estimates by the Utah Division of Travel Development and expenditure data collected in this study suggest Monument visitor spending to account for about 25% of overall visitor spending Garfield and Kane Counties, which seems realistic considering the role of the Monument as just one of many attractions in these counties.

Another interesting feature of IMPLAN is its ability to produce some data that help characterize current economic conditions in Garfield and Kane Counties. The summary output shown for the counties in Table 14, is taken from the Output, Value Added and Employment output results. As shown in Table 14, expenditures from the nearly 150,000 Monument destination visitors would contribute about 520 or over 7% of the 6,858 full-time equivalent jobs held by Garfield and Kane County residents and nearly 6% of the counties' residents salaries, property income, and business taxes and fees. Of the nearly \$400,000,000 spent in all industries, about 6.5% would be contributed by Monument destination visitors.

Again, it must be remembered this represents only those visitors who specified the GSENM as

	<i>Garfield and Kane Counties Overall</i>	<i>Contribution by Monument Destination Visitors</i>	<i>Percent of Overall Contributed by Visitors</i>
Industry Output	\$390,342,000	\$25,365,320	6.5%
Employment	6,858 jobs	521.8 jobs	7.8%
Value Added	\$211,639,000	\$12,544,844	5.9%

Table 14. Contribution of Monument destination visitors to economic conditions in Garfield and Kane Counties.

their primary destination. The Monument also contributes a greater amount to the local economies as secondary destination for visitors whose primary destination is Bryce Canyon National Park, Zion Nation Park, or other state and national attractions in Garfield County, Kane County, and Coconino County in Arizona.

## Discussion

The GSENM is a national and international tourism attraction. In 2004, group sizes were relatively small (average group size is 2.8 and 90% of the groups had 2 or fewer people), visit lengths were long (70% expect to stay in the Monument area for 2 or more days), and 61% of the respondents were first time visitors. Only 14% of Monument visitors were Utahns, mostly from urban areas (Salt Lake, Utah, and Washington Counties). Nearly two-thirds of the visitors were from other states and 23% were international (Germany, Netherlands, and Canada especially). This is a transient, non local, tourism-oriented clientele.

There was also a significant designation effect. 85% of the visitors, made their first visit to the Monument in the eight years since designation (1996 to 2004), including nearly half of the repeat visitors. The vast majority of the visitors' primary reason for visiting the Monument area was recreation, but relatively few said the GSENM was their primary destination; the major destination for most are other national or state parks in the area. And while many visitors knew about the Monument before their trip and claimed to know the managing agency, only one-third actually named the BLM.

These results indicate that the GSENM is an important stop for tourists to Garfield and Kane Counties, and visitation to the Monument increased substantially as a result of its designation. But for 70% of visitors, it is actually a secondary stop along the route that visitors take to visit other more established designations like Zion and Bryce Canyon National Parks. This has both positive and negative implications for Monument management and local communities. While the Monument itself has probably not caused a large increase in the number of visitors to the area, Monument designation has clearly increased the average visitor's length of stay and expenditures in the area.

Visitors also have significant informational needs, as many are new to the Monument and they are more likely to have investigated national and state parks rather than the Monument itself. Therefore, GSENM visitors may be more likely to have national park-type expectations for roads, information, and services. However, the very general nature of the visitors' expectations for the Monument experience may, to a great extent, be formed and influenced by the sites developed and information provided by the BLM.

Some interesting Monument management trends begin to emerge from the importance-performance (I-P) analysis. Management areas needing the most attention are wildlife, directional signs to monument destinations, and monument trail markers. Secondary areas of concern are interpretation and natural history information, signs to visitor centers, and information about recreation opportunities. And even though roads were not included in I-P analysis, it seems that this may be an informational issue as well. While the BLM has little control over some of these factors, like weather, road conditions, distances between sites,

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and others, these can become part of a general informational approach for the Monument. Research shows that satisfaction is often increased as visitor experiences meet their expectations, and while new roads, paving, and pullouts on the Monument may not be economically feasible or meet the goals of the Monument plan or agency mandate, better information can be provided to tell visitors the difficulties, conditions, and distances they can expect. This approach can increase visitor preparedness and satisfaction, and warning signs and information can also be used strategically to reduce visitation in primitive and outback zones. In this way, signs and information can increase visitor safety, improve experiences, reduce impacts, and generally help meet Monument zoning goals.

The I-P results for items relating to visitor services in local communities suggest that visitors would like to see improvements in certain business sectors. Eating and drinking establishments, grocery and convenience stores, and emergency medical services received high importance but low satisfaction ratings. The number, diversity, and hours of operation for these services need to be reviewed and perhaps expanded. Several other services that had low satisfaction scores but also low importance scores should also be reviewed: guides and outfitters, privately owned campgrounds, sporting goods and outdoor equipment stores, and souvenir and gift shops. Low importance ratings for these services are probably based on the relatively specific nature of the service, and do not reflect the changing patterns of visitation due to the Monument. Traditional services offered before the Monument was created, such as lodging services and government campgrounds, were rated highly. Demands for certain services like outfitters and guides and emergency medical services are probably increasing, and the Monument's effect of holding visitors in the area longer and increasing overnight stays in local communities with less experience with tourism, like Cannonville, Boulder, and Escalante. In order to meet visitor satisfaction and community development goals, local officials and business owners should evaluate and perhaps provide and advertise more of these low satisfaction services, even though some of the importance score are also relatively low.

To estimate the economic value of Monument visitors for local communities, mail survey respondents were asked to estimate their group expenditures for the trip. Two sets of analyses were conducted: descriptive statistics of group and individual expenditures, and an input-output analysis to estimate the total effects of these expenditures in different economic sectors in Kane and Garfield Counties.

The average amount spent per group was \$495. Average expenditures for groups from Utah were considerably lower (\$356) than for visitors from other states (\$500), and countries (\$615). This is especially significant since Utah visitor group sizes were nearly twice as large (mean = 4.8) as groups from other states and countries (mean = 2.5). Utah visitors spent an average of \$74 per person, compared to \$200 for visitors from other states, and \$246 for international visitors. Most of this difference was due to Utahns' lower spending levels for lodging, restaurants, and souvenir shops.

IMPLAN was used for the input-output analysis. Calculations were based on an average group size of three, expenditures that were made by visitors for whom the Monument was their primary destination, and the BLM's estimate of 600,000 annual visitors. Results indicate GSENM visitors spend \$20.6 million in Kane and Garfield Counties. This spending directly supports more than 430 full-time equivalent jobs with almost \$10 million in employment value added. When considering the ripple effect of this money in the Garfield and Kane County economies, the total impact would be \$25 million and more than 500 jobs. Value added effects increases the impact of that money by about \$13 million.

Due to multiple trip destinations and other measurement factors, these figures are just estimates. We believe they are conservative estimates of the total value of Monument visitation, however. For example, as noted above, we also found there was a significant designation effect (e.g., 85% of the visitors, made their first visit to the area since 1996). So many of the Monument visitors who may have come primarily to visit national or state parks in the area, may not have made

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the visit, or would not have stayed in the area as long, if the GSENM had not been designated. To provide more exact figures, a complete economic impact study is needed.

## Conclusion

The current management plan focuses on providing information and access to relatively few sites on the periphery of the Monument. The goal is to concentrate recreational use and impacts on a small number of acres. The relatively non specific expectations and tourist-oriented character of the visitors seems to indicate this visitor management approach may be appropriate and effective. Service and overnight needs will also be important factors in visitor satisfaction, and the provision of these needs, and the relationship between Monument staff and local community service providers, will be an important future concern. It is likely there are distinct differences in the expectations and preferences of first-time and repeat visitors, and visitors from Utah compared to those from other states or countries.

To monitor visitor use trends, future research should replicate the intercept methods and use the results obtained from the initial 2004 study as representative baseline data. The mail survey results add more detailed, but essentially suggestive, findings that tend to over represent relatively highly committed, interested, and longer term visitors. International and overlook visitors are also under-represented in the mail survey results.

In general, visitors felt service workers were friendly and helpful, but information availability and visitor center hospitality could be improved. The availability and type of services seems to be the greatest concern, especially related to the lack of diversity, cost, and hours of operation. These factors may be related to the relative newness of visitor service demands in many of the Monument host communities.

One of the objectives of the GSENM management plan is to help provide economic opportunities for local communities. The BLM has respond-

ed to this charge by focusing the development of Monument visitor centers in the gateway communities of Boulder, Escalante, Cannonville, Kanab, and Big Water. These visitor information and interpretive centers, along with other local visitor and hospitality services, attract visitors as tourists who spend time and money in these gateway communities. Development at the periphery of the Monument, in the gateway communities and adjacent front country, keeps tourists more concentrated and less dispersed across the large expanses of the Monument. At the same time, economic benefits will accrue for local residents because of visitor spending in the gateway communities. Tourism development in any situation brings change along with potential positive and negative impacts. Positive impacts are often perceived as benefits, and these can benefit the economic, social, and environmental fabric of a locality or region. Negative impacts are considered costs and also affect the economic, social, and environmental fabric.

Collaborative planning and management can assist in minimizing costs while at the same time maximizing benefits, thus contributing to local community development. In order to assist in this endeavor, future collaborative research efforts working with stakeholder partners using the products from the front country surveys as baseline data should be explored. The focus would be on the collection of data for evaluating on-site and community education; examination visitor needs, expectations, and preferences for visitor and hospitality services; analysis of the relationships between tourism, visitor and hospitality services, and local community development; and identification of other research needs.

## Acknowledgments

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# Grand Staircase-Escalante National Monument

## *A Summary of Economic Performance in the Surrounding Communities*



Grand Staircase Escalante National Monument



### SUMMARY FINDINGS

Research shows that conserving public lands like the Grand Staircase-Escalante National Monument helps to safeguard and highlight amenities that draw new residents, tourists, and businesses to surrounding communities.<sup>1</sup>

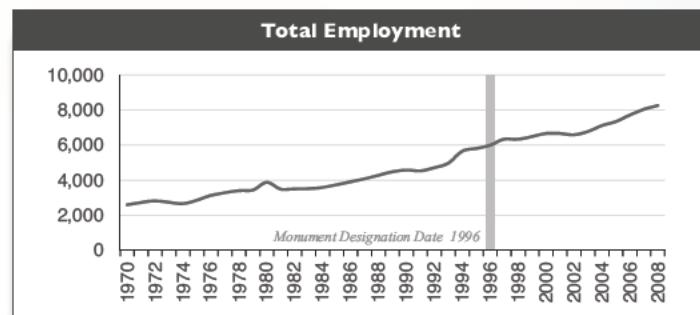
Western counties with protected public lands, like national monuments, have been more successful at attracting fast-growing economic sectors and as a result grow more quickly, on average, than counties without protected public lands.<sup>2</sup> In addition, protected natural amenities—such as the pristine scenery found at Grand Staircase-Escalante—also help sustain property values and attract new investment.<sup>3</sup>

### ECONOMY GROWS AFTER DESIGNATION

The communities in Garfield and Kane counties, Utah neighboring the Grand Staircase-Escalante National Monument (the Grand Staircase-Escalante Region) experienced strong growth after the 1996 designation of the monument, continuing previous growth trends.

**From 1996 to 2008, in the Grand Staircase-Escalante Region:<sup>4</sup>**

- Population grew by 8%
- Real personal income grew by 40%
- Jobs grew by 38%
- Real per capita income grew by 30%

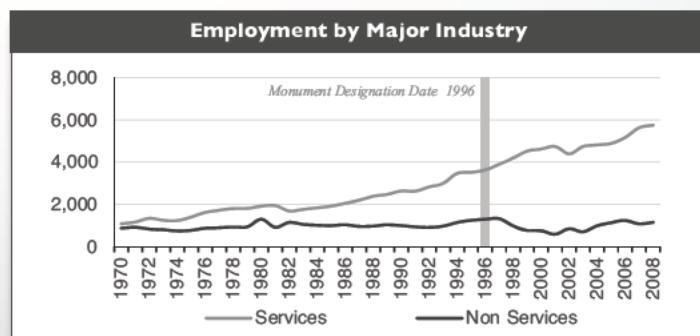


### SERVICES JOBS INCREASING ACROSS THE BOARD

Services jobs—such as doctors, engineers, and teachers—account for the majority of employment growth in the Grand Staircase-Escalante Region in recent decades. These jobs are increasingly mobile, and many entrepreneurs locate their businesses in areas with a high quality of life.

**From 1996 to 2008, in the Grand Staircase-Escalante Region:<sup>5</sup>**

- Services grew from 3,627 to 5,749 jobs, a 59% increase
- Non-Services shrank from 1,294 to 1,148 jobs, an 11% decrease





Grand Staircase Escalante National Monument

THE COMMUNITIES IN GARFIELD AND KANE COUNTIES NEIGHBORING THE NATIONAL MONUMENT EXPERIENCED STRONG GROWTH SINCE ITS DESIGNATION IN 1996.

THE INCREASES IN POPULATION, JOBS, PERSONAL INCOME, AND PER CAPITA INCOME MIRROR OTHER WESTERN COUNTIES WITH NATIONAL MONUMENTS OR OTHER PROTECTED LANDS.

#### METHODOLOGY

This fact sheet is part of a series that assesses the economic performance of local communities that are adjacent to national monuments. The series examines national monuments in the eleven western continental states that are larger than 10,000 acres and were created in 1982 or later.

#### FOR MORE INFORMATION

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Series: [The Economic Importance of National Monuments](#)

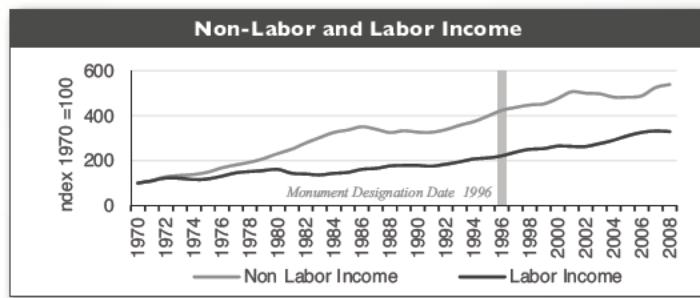
## NON-LABOR INCOME GROWS FASTEST

One of the largest and fastest growing sources of new personal income in the Grand Staircase-Escalante Region is non-labor income, which is made up of investment income such as dividends, interest and rent, and government transfer payments such as Social Security and Medicare.

For people with investment income and many retirees, protected public lands and recreation provide important aspects of a high quality of life. Non-labor income already represents more than a third of all personal income in the West—and will grow as the Baby Boomer generation retires.<sup>7</sup>

#### From 1996 to 2008, in the Grand Staircase-Escalante Region:

- Non-Labor income grew from \$96 million to \$122 million, a 27% increase
- As a result, in 2008 non-labor income made up 36% of total personal income



## TRADITIONAL JOBS HOLD STEADY

Long before the monument's creation, commodity industries (agriculture, mining, timber) were becoming a smaller share of the overall economy in the Grand Staircase-Escalante Region. These industries remain part of the region's economy today.

#### In 2008, in the Grand Staircase-Escalante Region:

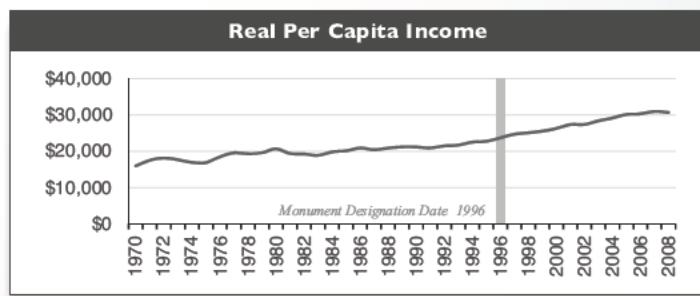
- Agriculture accounted for 5% of total employment
- Mining accounted for 0.6% of total private employment
- Timber accounted for 1% of total private employment

## PROSPERITY ON THE RISE

As the economy has grown since designation of the Grand Staircase-Escalante National Monument, per capita income has risen as well. This indicates growing prosperity in the region.

#### From 1996 to 2008, in the Grand Staircase-Escalante Region:

- Real per capita income grew from \$23,698 to \$30,701, a 30% increase



<sup>1</sup> Lorah, P., R. Southwick, et al. 2003. Environmental Protection, Population Change, and Economic Development in the Rural Western United States. *Population and Environment* 24(3): 255-272. McGranahan, D. A. 1999. Natural Amenities Drive Rural Population Change. E. R. S. U.S. Department of Agriculture. Washington, D.C. Haas, W. H., W. J. Serow, et al. 2002. The Baby Boom, Amenity Retirement Migration, and Retirement Communities: Will the Golden Age of Retirement Continue? *Research on Aging* 24(1): 150-164.

<sup>2</sup> Rasker, R. 2006. An Exploration into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands. *Society & Natural Resources*, 19(3): 191-207.

<sup>3</sup> Deller, S. C., T. H. Tsai, et al. 2001. The Role of Amenities and Quality of Life in Rural Economic Growth. *American Journal of Agricultural Economics* 83(2): 352-365.

<sup>4</sup> All economic data comes from U.S. Department of Commerce. 2010. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C.; U.S. Department of Commerce. 2010. Census Bureau, County Business Patterns, Washington, D.C.

<sup>5</sup> The U.S. Department of Commerce changed with way it classifies industries between 2000 and 2001. To show a continuous timeline for services and non-services employment we subtracted non-services jobs from total private employment to derive services jobs. The national recession from March-November 2001 also may account for short-term employment volatility around 2001.

<sup>6</sup> Outdoor Industry Foundation. 2006. The Active Outdoor Recreation Economy: A \$730 Billion Annual Contribution to the U.S. Economy.

<sup>7</sup> Frey, W.H. 2006. America's Regional Demographics in the '00 Decade: The Role of Seniors, Boomers and New Minorities. The Brookings Institution, Washington, D.C.

## **POLITICS, ECONOMICS, AND FEDERAL LAND DESIGNATION: ASSESSING THE ECONOMIC IMPACT OF LAND PROTECTION— GRAND STAIRCASE-ESCALANTE NATIONAL MONUMENT**

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### **ABSTRACT**

Many local government officials bemoan the formal protection of public lands as taking off the table a variety of economic activities that could help bolster local economies. In contrast some have found evidence that indicate that designations may be positively correlated with economic indicators. We investigate the conflicting beliefs regarding the economic impacts of federal conservation designations through statistical analysis of economic conditions using panel data to compare two counties housing the sizable Grand Staircase Escalante National Monument (GSENM) to a set of counties matched on economic and demographic criteria. Our statistical analysis of economic conditions shows that after controlling for federal transfers, the Grand Staircase Escalante National Monument designation reduced the decade to decade growth in total nonfarm payrolls by an estimated \$146 million, and had no statistically significant effect on per capita income or tax receipts.

### **INTRODUCTION**

In 2008, Utah State Representative Aaron Tilton sponsored House Joint Resolution 10 in the Utah State Legislature encouraging the United States Congress “not to designate new Utah wilderness areas”. HJR 10 specifically demanded that Congress not designate any additional Wilderness areas in Utah without the unanimous consent of the Utah Congressional Delegation and reaffirmed “the [Utah] Legislature’s strong support for continued public access and multiple use regarding public lands” (HJR 10 2008 1). In support of this position, the resolution asserts that Utah relies on public lands for a variety of economic activities including “oil and natural gas development, mining, outdoor recreation and other multiple uses, rights of way for transportation, waterlines, electric transmission, and telecommunication lines” (HJR 10 2008 2). Each of these activities fuel Utah’s economy and grow the State’s tax base. Removing them from the table of available options is predicted to spell economic trouble for Utah’s economy.

In direct contrast to this view, some have alleged that large federal land holdings and protected areas such as Wilderness may attract a different population than in private land counties and thereby may help generate economic growth. The Sonoran Institute recently noted:

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... The presence of public lands is good for the economy. Personal income, adjusted for inflation, grows faster in counties with significant percentages of their land base in public ownership. What's more, counties with protected lands land set aside for conservation show an even more marked increase in personal income.

In this paper, we investigate the conflicting belief regarding the economic impacts of federal conservation designations through statistical analysis of economic conditions using panel data to compare two counties housing the sizable Grand Staircase Escalante National Monument to a set of counties matched on economic and demographic criteria.<sup>1</sup> Our statistical analysis of economic conditions shows that after controlling for federal transfers, we find that the Grand Staircase Escalante National Monument designation reduced the decade to decade growth in total nonfarm payrolls by an estimated \$146 million, and no statistically significant effect on per capita income or tax receipts.

### THE IMPACT OF FEDERALLY DESIGNATED LANDS

As noted in the introduction, many local government officials bemoan the designation of protected areas as taking off the table a variety of economic activities that could help bolster local economies. In truth, the academic literature investigating the impact of protected area on counties is somewhat sparse. Some of the existing literature represents a critique of the efficiency of the Federal Government as land manager (see generally Anderson, Smith and Simmons 1999) and the expansive use of protected lands as a land management tool in departure from original congressional intent (Osterle 1997).

More directly on point, some of the existing research seems to support at least part of the claim that protected lands detrimentally impact local economies. Although their findings largely find limited long term economic detriment to local economies, Rudzitis and Johnson (2000) find that federally protected Wilderness does shut down access to resources traditionally used for extractive economic activities. These losses may be somewhat offset by an increase in service sector activities, but the service sector jobs generally pay less than the lost extractive jobs. Although not quite as restrictive as Wilderness, National Parks remove much of the ability of local resource users to develop

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<sup>1</sup>While the scope of this paper is limited to the economic impacts of one specific Wilderness designation, this effort represents the beginning phase of a more expansive study exploring how Wilderness and other federally protected lands impact the economies of rural counties and the quality of life of individuals who live therein. Through our research, we hope to shed light on a number of important questions identified in existing literature including whether there are long term economic benefits from Wilderness designation, whether there are population impacts of Wilderness Designation, and whether Wilderness Counties offer greater quality of life than Non Wilderness Counties.

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extractive industries in the protected area. Some assume that the negative impacts of Wilderness are largely identical to National Monument designations as the effective restrictions on the designated lands are similar.

The duration of these impacts is somewhat unknown. Power (1991), for instance, conducts a case study examining the stringent rules in place protecting the ecosystem surrounding the Greater Yellowstone Area. He finds that extraction based industries have diminished over time and have been replaced by economic activities specifically dependent on preservation including tourism, permanent relocation to be closer to the natural amenities offered, recreational homes and cabins, and retirement. These results raise the question of whether there may be temporal effects on local economies within the designation of protected lands that merit further investigation.

Other studies find no negative relationship, and some results indicate that designations may have been positively correlated with economic indicators. Duffy Deno (1998), for instance, finds no evidence that employment at a county level is adversely effected by the presence of federal protected lands. Rasker (2006) rejects the notion that federal land ownership negatively impacts counties. Using correlation and regression models to investigate how different management of public lands (including protected lands) impacts local counties' economies, he finds that public lands are associated with higher personal income tax levels in rural areas.

Holmes and Hecox (2004) similarly find a positive relationship between economic growth and publicly protected lands. Through studying 113 rural counties, 43% of which contain public lands, the authors find that there is a significant positive correlation between the percent of land designated as federally protected Wilderness and population, income, and employment growth. They also find that growth of investment income and nonfarm self employment income are correlated with presence of wilderness. Lorah and Southwick (2003) similarly find positive impacts of protected lands. Using county level data, the authors calculate the proportion of protected lands occurring within 50 miles of the center of the county. Applying this metric, the researchers find that the protection of these lands is positively correlated with high population growth and high employment and income growth.

Wilderness designations may also trigger demographic shifts, providing an amenity that could attract new immigrants or keep people from leaving an area. This preference for Wilderness could potentially offer diverse economic opportunities and growth. Although Duffy Deno (1998) finds no significant relationship between federally designated Wilderness and population, a variety of studies find a positive relationship. Rudzitis and Johansen (1991), use a survey of 2670 residents of wilderness counties to measure public opinion regarding public lands including Wilderness lands. They found that 53% moved to an area at least partially because of the presence of wild lands, 81% felt wilderness was important and 65% were against mineral or energy development in such areas. This finding indicates that protected areas may create conditions that foster economic opportunities in addition to extractive uses. Shumway and Otterstram (2001) similarly find migration patterns toward counties with protected areas.

## THEORY SKETCH

Our evaluation focuses on one of the most basic assertion presented by proponents of protected land designation, including those who advocated the creation of the GSENM, that protection of physical lands should over time increase economic prosperity in communities where the protected land is located. This theory parallels other approaches that generally focus on the consumptive extraction of resources as an engine of economic growth, but is broader in that it allows for growth from non extractive sources, known in the literature as an area's amenities (Deller, Tsai, Marcouiller, & English, 2003).

The amenities theory of economic development asserts that by observing the change in economic activity as extractive industries declined due to the increasing marginal costs of extraction a clear pattern can be identified where,

Instead natural amenities, desirable lifestyles and a relatively high quality of life, give some communities an advantage in attracting and benefitting from tourists, retirees, footloose entrepreneurs ... environmental amenities ... act as a catalyst in the transformation of stagnating extractive economies into diversified, relatively competitive amenity economies. (Lorah P. A., 2000)

These assertions claim that future economic development for many rural counties can be found in attracting new residents and tourists thus creating new economic opportunities as these new individuals interact in the community. (Rudzitis & Johansen, 1989) These assertions make good economic sense: as more tourists and residents are attracted to an area they bring with them resources that can be used to improve economic conditions generally, so long as those arriving bring resources with them. In the theory it is an area's amenities that draw residents and tourists, so the preservation of natural amenities has the long term economic benefit of drawing traffic and resources to an area.

What then are these amenities? A number of studies have asserted that natural lands are one of the chief amenities that draw resources to an amenity based economy. For example, in 2006 the Sonoran Institute commissioned a large scale report that looked at rural western counties, and concluded that the protection of land in those counties contributes directly to an increase in economic prosperity, operationalized as the real wages of by residents. (The Sonoran Institute, 2006) Unfortunately, this report used only correlated data to identify potential relationships, and did not publically release the methodology of the report nor the root data.

Scholars including Loomis, Richardson, and Lorah have conducted a number of studies that attempt to tease out the economic effects of wilderness designation on local communities. (Loomis & Richardson, 2001) (Lorah P. A., 2000) These authors conclude that the designation of wilderness in rural areas has a net positive effect on the economic wellbeing of both the community at large and the individual citizen. A number

of scholars have challenged the methodology of these studies, which have primarily relied on correlation and expenditure data to make these claims and suggest that other models would be more appropriate in identifying the effects of wilderness. (Keith & Fawson, 1995) (Dawson, Blahna, & Keith, 1993)

In short the literature suggests a relationship should exist between wilderness designation and economic prosperity, but empirical work has found mixed results. The central hypothesis of this study is that the designation of the Grand Stair Case Escalante National Monument had a significant effect on the economic conditions of Kane and Garfield counties.

### **THE GRAND STAIRCASE-ESCALANTE NATIONAL MONUMENT**

Beginning in the late 1800s, the U.S. Government began setting aside swaths of land under varying degrees of protection. These efforts resulted in the establishment of National Parks in 1887 with the creation of Yellowstone National Park and with the creation of National Forests beginning in 1891 through the establishment of the Yellowstone Timberland Reserve (now the Shoshone National Forest). The identified statutory purposes of each of these types of land reservations anticipated some degree of human usage. Parks were designated as places where individuals could visit to recreate in nature's grandeur. National Forests were set aside to conserve timber resources for future use.

A new type of protection was enabled in 1906 through the creation of the Antiquities Act. The Act grew out of the primary concern over protecting archeological artifacts in the Southwestern United States (Coggins et al 1993). However, the Act's language was significantly broader. The Act states:

The President of the United States is authorized, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and may reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected (16 U.S.C.A. § 431).

The earliest use of the Act followed in 1906 with the declaration of Devils Tower, a unique geological formation in Northeastern Wyoming, as the nation's first National Monument. Despite the language of the Act establishing the protection of "the smallest area compatible with the proper care and management of the objects to be protected," Presidents have regularly used the Act to set aside large areas. For instance, President Theodore Roosevelt used the Act to designate some 270,000 acres as a National Monument in the Grand Canyon. The Act was also used by President Franklin Roosevelt to declare 220,000 acres of area around the Grand Tetons as a National Monument in

1943. President Carter designated 56 million acres of Alaskan land as National Monuments in 1978.

President Clinton designated the Grand Staircase Escalante National Monument in 1996. The Monument spans nearly 1.9 million acres in south central Utah along the Arizona border. The Monument resides completely within Utah and, as can be seen in Figure 1 below, occupies the majority of Kane County and much of Garfield County. Each of these counties already contained a vast majority of public land. Much of this land had been placed in protected status. Bryce Canyon National Park, for instance, straddles Kane and Garfield Counties. Capitol Reef National Park crosses into eastern Garfield County, and much of Southern Kane County contains the Glen Canyon Dam National Recreation Area.

**FIGURE 1**



(Bureau of Land Management 2009)

Located in a geologically diverse region, the GSENM houses considerable mineral deposits. The area contains an estimated 62 billion tons of coal estimated to be worth hundreds of billions of dollars. The area also contains large oil deposits, estimated at around 270 million barrels of oil. In the early 1990s, Andalex Resources Company, a Dutch based coal mining company, had acquired permits to mine coal from the area. Conoco Oil, PacifiCorp, and various other companies had also acquired permission to develop mineral extraction activities in the area.

In making the announcement, President Clinton alluded to the vast mineral deposits found within the Grand Staircase. He stated, “[m]ining jobs are good jobs, and mining is important to our national economy and to our national security. But we can't have mines everywhere, and we shouldn't have mines that threaten our national treasures” (1996 1787). The national treasures contained in the Grand Staircase identified by the President included the area's aesthetic quality, geology, archeological

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artifacts, fossils, biology, and its history. Each of these items provides recreational opportunities for explorers and research opportunities for geologists, archeologists, biologists, and historians.

The Grand Staircase Escalante National Monument became the largest National Monument in the United States. Due to its size, the President established a new management regime for the park. Although all National Monuments up to that date had been managed by the National Park Service, the determination was made that the Grand Staircase would remain under the management of the Bureau of Land Management.

## ECONOMETRIC ANALYSIS

Our central question is whether or not the designation of the GSENM had a measurable effect on the economic conditions within Garfield and Kane counties.

As mentioned above, competing theories predict both negative and positive effects for the presence of protected lands. Empirical work also yields mixed results. Much of existent work on the economic impact of wilderness has relied on cross sectional data, and in doing so provides a snapshot of the correlative effects of wilderness and economic development. The limitation of this analysis is that conservation designations, particularly Wilderness, occur in counties with particular geographic characteristics, most notably and obviously the presence of large areas of undeveloped land. These characteristics may act as a confounding variable, muddling static cross sectional analysis. Time series analysis provides a better picture of whether or not land conservation policy affects economic outcomes in a rural county. We want to identify whether the *designation* has contributed to or inhibited the local economies, not whether the *characteristics that lead to designation* determine economic outcomes.

## Data

Using data from the Bureau of Labor Statistics and the U.S. Census Bureau, we compiled cross sectional time series data (commonly known as panel data) for a subset of U.S. counties. We selected the counties using propensity score matching based on economic and demographic criteria, pairing Kane and Garfield counties with their 100 closest matches. These two sets were then combined and duplicates removed, yielding a final frame of 187 counties. We use data for the decennial years when available, mirroring the largest data sets collected by the Census Bureau. One of our dependent variables, Tax Receipts, comes from the BLS and is only available in particular years, so 1992 and 2002 data are presented in lieu of decennial data. The next section provides a brief overview of the variables of interest.

## Introduction of Variables

We use three variables as proxies for economic outcomes. Table 1 presents summary statistics for each of these variables. For each indicator, Kane County outperforms Garfield county in both observation years. Garfield County is in the first

quartile of the dataset for each variable, and Kane falls in the interquartile range. Per capita income, the first of our indicators, is a standard measure of economic well being. Our second proxy for economic well being is Total Non farm Payroll. This variable has the advantage of not being a direct function of the institutional arrangements that exist. (That is not to say it is not an indirect function of those institutions.) Further it is a measure that speaks directly to the economic situation of individuals. This measure is not a perfect proxy, and does not capture the capital investment, out of county workers, or most importantly retirees that do not receive payroll.

**Table 1**  
**Summary Statistics for Dependent Variables**

Variables →	Per Capita Income		Nonfarm Payroll		Tax Receipts	
Year →	1990	2000	1990	2000	1990	2000
Mean	15,524	22,793	812.9	1441.2	38.2	63.4
Standard Deviation	3,274	5,588	1217.0	2163.4	43.6	73.4
First Quartile	13,076	19,945	116.7	205.5	11.1	17.9
Median	15,348	21,881	363.0	628.1	23.8	39.1
Third Quartile	17,155	24,841	965.9	1783.7	44.1	71.9
Garfield County	12,313	18,323	90.2	214.7	10.5	22.7
Kane County	13,104	21,637	98.9	253.8	14.2	28.9

Per capita income is in dollars.

Nonfarm payroll and tax receipts are in millions of dollars.

Our final dependent variable, Total Tax Receipts, has a number of advantages: the data is likely largely complete, and in general local governments are required by state and federal statute to correctly report tax receipts, this reality provides some confidence in the data that self reporting or estimations of economic activity do not provide. This dependent variable, however, is also not a perfect proxy; and there are significant institutional differences across states, regions, and often counties themselves about how, when, and why taxes may be collected. These differences are highly likely to be important predictors of tax receipts, and will exist in our model as omitted variables.

Although none of these variables are perfect proxies for economic development or growth, analyzing each variable through cross section time series regressions should provide us with an idea of how the GSENM designation affected Garfield and Kane counties' performance over the time period compared to other counties without the designation.

Our variable of interest is a dummy for the presence of the GSENM, treating the 1994 designation as treatment. We follow the literature as a guide for inclusion of our control variables, including important demographic, geographic, and economic

indicators. A full list of the dependent variables is available in Table 1. Table 2 shows summary statistics for selected variables as well as Garfield and Kane counties' position relative to the rest of the comparison set.

**Table 2**  
**Summary Statistics for Selected Control Variables**

Variable →	Area	Unemployment Rate		High School Graduates	
Year →	na	1990	2000	1990	2000
Mean	1755	6.0	4.3	74.0	80.6
Standard Deviation	1410	6.3	1.8	7.4	7.3
First Quartile	756	3.3	1.8	70.1	46.6
Median	1206	4.9	4.0	74.8	82.1
Third Quartile	2462	7.3	5.2	79.1	86.2
Garfield County	5175	9.2	6.8	79.9	85.8
Kane County	3992	5.9	3.8	82.5	86.4

Area is in square miles.

Unemployment rate is as a percent of the labor force.

High school graduates is as a percent of the adult population.

We see that Kane and Garfield counties are large for the group. Kane County closely follows the mean for both years in unemployment, while Garfield County experienced higher than usual unemployment. Both counties have a high percentage of high school graduates for the comparison group, each very near the cutoff for the third quartile in the comparison year.

## Methodology

We include a dummy variable for the presence of the GSENM. For Kane and Garfield counties, this variable appears in only in the year 2000. Using these two counties as a treatment group, we fit a cross sectional time series model with fixed county effects. Although we utilize a battery of control variables, a host of unobserved variables affected the decision to designate GSENM, such as the area's unique geography. Fixed county effects control for the unobserved characteristics that remain constant over time. We make use of heteroscedasticity robust standard errors, as we do not anticipate independence of the error term.

## Presentation of Results

Table 3 presents the results of the regression on per capita income, total non farm payroll, and total tax receipts. We do not find sufficient evidence to reject the null hypothesis of no effect for the designation on total per capita income or total tax

receipts, but we do observe a statistically and economically significant estimated loss of \$146,560,000 in decade to decade growth in nonfarm payrolls. Recall from Table 1 that there was still significant growth in this economic indicator in the treatment counties, so this negative estimate means there was less growth than anticipated given the other characteristics. There is marginally insignificant evidence of an increase in per capita income. These two results are not incompatible; one possible scenario is that the designation led to a net outflow of below average income individuals, leading to a significant decrease in nonfarm payrolls but an increase in the average incomes. This is only one of many plausible explanations.

**Table 3, Panel A**  
**Time Series Regressions Fitting Per Capita Income**

Independent Variable	Estimate	Robust SE	p value
GSNME	2153.	1110.	.054
Infant Death Rate	46.9	33.0	.158
Population Rank	0.0084	0.0059	.158
Land Area	205.47	453.11	.450
Percent White	0.0000758	0.00244	.975
% Growth in HH from Previous Decade	7.86	27.84	.280
Birth Rate	205.19	157.24	.194
Death Rate	270.16	201.93	.183
% HS Graduates	712.4	64.1	.000**
School Enrollment	0.326	0.588	.581
% Population Growth from Previous Decade	18.83	18.68	.315
Unemployment Rate	1.52	1.58	.338
Federal Expenditure	0.0114	0.003	.000
Crime Rate	62.	34.59	.075
Social Security Recipients	0.759	0.63	.230
Local Government Employees	0.00475	0.00355	.182

The directions of our control variables generally follow intuition, while others warrant further discussion. Counter intuitive results are likely a result of our particular sampling frame, but may also represent co linearity between certain control variables. Our analysis suggests that land area has a negative effect on tax receipts. Given the sampling frame of propensity score matched counties, this result is sensible. Over the entire universe of US counties we anticipate the effect of land size will be quadratic, increasing these aggregate indicators as county size increases until a certain point due to population effects, above which the effect of rural counties will be outweighing population effects and increased size will decrease aggregate indicators. If this is the case, among our sampling frame we may only be seeing this rural county effect, where a county's land size is negatively correlated with aggregate economic indicators. The

model estimates that percent white has a negative and statistically significant downward effect on tax receipts, although the effect is only marginally economically significant. For rural counties, it may be that the counties that attract non white immigrant populations are those with job opportunities. If this were the case, we would expect to see increased diversity in locations with better economic opportunities. Percent household growth, percent high school graduates, school enrollment, federal expenditure, and Social Security recipients are all signed consistently with intuition where statistically significant.

**Table 3, Panel B**  
**Time Series Regressions Fitting Non-Farm Payroll**

Independent Variable	Estimate	Robust SE	p value
GSNME	14656.36	5562.88	.009**
Infant Death Rate	80.48	184.62	.663
Population Rank	0.085	0.134	.526
Land Area	18963.9	11841.65	.111
Percent White	0.031	0.02	.127
% Growth in HH from Previous Decade	44.57	242.44	.854
Birth Rate	4293.24	1310.0	.001**
Death Rate	1089.71	1151.94	.346
% HS Graduates	2587.64	946.83	.007**
School Enrollment	18.57	7.21	.011*
% Population Growth from Previous Decade	26.03	223.27	.907
Unemployment Rate	19.93	16.08	.217
Federal Expenditure	0.443	0.239	.066
Crime Rate	171.85	94.46	.070
Social Security Recipients	61.56	13.74	0.000**
Local Government Employees	0.003	0.064	.961

The majority of the counterintuitive findings are likely the result of our particular sampling frame. We use these as a proxy controls for several demographic effects (suggesting some level of bias in these control estimates) in our attempt to isolate the effect of the GSENM designation while maintaining a parsimonious econometric model. We leave to other researchers to tease out the specific effect of demographic indicators, and do not assert that these coefficients are appropriate for interpreting the relationship between these rates and economic indicators.

**Table 3, Panel C:**  
**Time Series Regressions Fitting Tax Receipts**

Independent Variable	Estimate	Robust SE	p value
GSNME	218.73	1661.2	0.895
Infant Death Rate	74.77	63.56	0.241
Population Rank	0.0122	0.0134	0.364
Land Area	4970.3	2202.71	0.025*
Percent White	0.0300	0.0097	0.002**
% Growth in HH from Previous Decade	244.81	93.87	0.010**
Birth Rate	293.49	571.19	0.608
Death Rate	253.98	376.29	0.501
% HS Graduates	803.3	2.71	0.000**
School Enrollment	8.99	3.21	0.006**
% Population Growth from Previous Decade	130.18	53.87	0.017*
Unemployment Rate	12.55	16.07	0.436
Federal Expenditure	0.166	0.0645	0.011*
Crime Rate	87.7	69.	0.205
Social Security Recipients	13.65	4.55	0.003**
Local Government Employees	0.0422	0.0270	0.121

## ANALYSIS AND CONCLUSION

The importance of economic development to those concerned about rural counties cannot be overstated, the extractive industries that have for so long been the life blood of these communities are under increasing pressure as reserves are depleted, cheaper alternatives are developed, and imported extractive resources compete in the market place. It is the nature of protected lands that they inhibit the development of these extractive industries, but some argue that protected lands provide the economic benefit of attracting tourists, triggering demographic shifts to the county, and promoting an amenity based economy as opposed to a traditional extractive economy.

Our findings do not support the claim that increased land protection leads to increased economic activity. Although there is insufficient evidence to make a definitive statement about whether or not the designation had a statistically significant effect on two of our three economic indicators (per capita income and tax receipts), we do find a both statistically and economically significant 'lost' \$146.5 million in total nonfarm payroll growth in Kane and Garfield counties.

Those that claim that we can have our cake and eat it to, with conservation driven protection designation also improving economic conditions, have failed to evaluate and

understand the data fully – we do not find evidence supporting that claim, and find some evidence to the contrary. The use of panel data and time series analysis gives us a better picture concerning the effect of land designations. Otherwise, the unobserved characteristics leading to particular land designations may be driving the empirical results, as opposed to the policy itself.

Our results have several limitations. First, our “treatment” group consists only of two contiguous counties in the deserts of southern Utah. Having such a small treatment group can lead to biased estimator results. Unfortunately, the Census Bureau and Bureau of Labor Statistics do not perform counts or provide estimates for most of our control variables for inter censal years. Re running our model with additional pre and post designation observations would solve these potential problems with bias. In the event that reliable estimates become available for these years, the inclusion of these data will address the problem of biased estimates.

Further, the designation of the GSENM significantly changed the landscape of economic opportunities in these counties, with large proportions of the counties entering very high levels of protection. Perhaps more modest designations of land could provide a county the economic benefit of providing additional amenities without precluding the same proportion of development of extractive industries, potentially leading to a positive net effect. Our analysis only deals with the designation of a high proportion of the county’s land, obscuring those possible effects. Further research using time series models with panel data testing the economic effect of land designations for a broader sample of selections will address this problem of external validity. Including a continuous measure of lands in the highest levels of protection could test for whether or not the proportion of land designated effects economic outcomes, perhaps including a quadratic term to test for some ‘optimal’ level of protected lands. Here we run into a similar problem as above, that some counties have large areas of land warranting designation, and others have very little.

We also note that the three economic indicators we used do not necessarily represent the final word on whether or not the GSENM was good or not for the counties of Kane and Garfield counties. It may be that the effects take decades to realize, or that there are other demographic and economic indicators affected in a way that our analysis does not take into account. IRS, state income tax data, building permit data, or additional demographic indicators would paint a much more complete picture. Our analysis is constrained by the data available to us, but when or if additional data becomes available, we can deepen our understanding of these counties’ economies and therefore how the economy has changed after the GSENM designation.

Using the natural features many rural counties have as a way to leverage economic development is still a potentially valuable undertaking, particularly when we consider that local officials and citizens generally have very little say over the management and designation of their public lands, as evidenced by the dissatisfaction of many Utah residents regarding the GSENM. In the presence of Wilderness, a National Park or National Monument, it is likely in a county’s best interest to develop its amenity

offering, as it cannot control or undo federal land designations. Further, state and county level designation of an area for recreation may be a way for a county to improve its economic conditions. Nothing in this study precludes the wisdom of amenity development for individual counties. Rather, the findings of this study indicate that we cannot say with confidence that increased protection leads to better economic outcomes; indeed, we find some evidence to the contrary. Removing the option of extractive industry development from a county's economic portfolio can only allow that county to make a second best decision as the county now has a restricted choice set. If preserving land from extractive development were the best option for a county, we would expect to see more counties favoring this approach absent federal designation.

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**Utah Oil and Gas**  
**Division of Oil, Gas and Mining - Department of Natural Resources**

**Annual Production Summary - Fields**

<b>Year</b>	<b>Fields</b>	<b>Oil</b>	<b>Gas</b>	<b>Water</b>
2017	UPPER VALLEY	10078	775	711673
2016	UPPER VALLEY	133117	9150	8780211
2015	UPPER VALLEY	146922	8350	10068731
2013	UPPER VALLEY	152558	7625	10255741
2014	UPPER VALLEY	153002	8350	10268481
2012	UPPER VALLEY	154566	9150	9848260
2011	UPPER VALLEY	166534	9125	10047189
2010	UPPER VALLEY	169698	9125	10014734
2009	UPPER VALLEY	175154	9125	10357964
2008	UPPER VALLEY	177709	9150	10721560
2007	UPPER VALLEY	188568	9125	11173441
2006	UPPER VALLEY	190862	9125	10592864
2005	UPPER VALLEY	197778	9125	9975370
2004	UPPER VALLEY	201058	7600	9638395
2003	UPPER VALLEY	203309	6125	9377247
2001	UPPER VALLEY	206270	9125	9493270
2002	UPPER VALLEY	210235	6050	9749680
2000	UPPER VALLEY	214266	7650	9783124
1999	UPPER VALLEY	220179	9123	9933569
1998	UPPER VALLEY	222038	2300	9442953
1997	UPPER VALLEY	239969	0	10301216
1996	UPPER VALLEY	250315	0	11117322
1995	UPPER VALLEY	260031	0	10621754
1994	UPPER VALLEY	273266	0	10320894
1993	UPPER VALLEY	282058	0	10186617
1992	UPPER VALLEY	310858	0	11086908
1991	UPPER VALLEY	333194	0	11885910
1990	UPPER VALLEY	335850	0	11652599
1987	UPPER VALLEY	348516	0	7928367
1989	UPPER VALLEY	359627	0	11333653
1986	UPPER VALLEY	380677	0	9819658
1988	UPPER VALLEY	398327	0	10810796

1985	UPPER VALLEY	466141	0	12780317
1984	UPPER VALLEY	492464	0	13196360

**Grand Staircase-Escalante  
National Monument**

Bureau of Land Management  
US Department of Interior

**Livestock Grazing Plan Amendment EIS**

**BLM - Utah**

**SOCIOECONOMIC BASELINE REPORT**



**July 2015**



**NATIONAL  
CONSERVATION  
LANDS**

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**ACRONYMS AND ABBREVIATIONS**

Full Phrase

AUM	Animal Unit Month
BLM	United States Department of the Interior, Bureau of Land Management
EIS	Environmental Impact Statement
EHCGR	Escalante Historic/Cultural Grazing Region
EPS	Economic Profile System
FLPMA	Federal Land Policy and Management Act of 1976
FS	United States Department of Agriculture, Forest Service
FWS	United States Department of the Interior, Fish and Wildlife Service
Glen Canyon	Glen Canyon National Recreation Area
GSENM or Monument	Grand Staircase-Escalante National Monument
H.B.	House Bill
MMP-A	Monument Management Plan Amendment
NEPA	National Environmental Policy Act
NPS	United States Department of the Interior, National Park Service
PILT	Payment-in-Lieu-of-Taxes
SE	Socioeconomic/Socioeconomics
U.S.	United States
USDA	United States Department of Agriculture

## I. INTRODUCTION

The United States (U.S.) Department of the Interior, Bureau of Land Management (BLM), Grand Staircase-Escalante National Monument (GSENM) is preparing a Livestock Grazing Monument Management Plan Amendment (MMP-A) and associated Environmental Impact Statement (EIS) to guide management of livestock grazing on BLM-managed lands within GSENM, as well as lands for which GSENM has administrative responsibility for livestock grazing. Livestock grazing on the affected lands is currently managed according to land use decisions set by four regional management framework plans signed in 1981: Escalante, Paria, Vermilion, and Zion (BLM 1981a, 1981b, 1981c, and 1981d, respectively), and a subsequent plan amendment completed in 1999 (BLM 1999). Connected management decisions will be made by the U.S. Department of the Interior, National Park Service (NPS), Glen Canyon National Recreation Area (Glen Canyon).

This document provides a “slice in time” overview of the baseline socioeconomic (SE) conditions which exist as a backdrop for the planning effort, and it lays out the general concepts of social and economic impacts analysis which will be applied as part of the planning, documentation, and decisionmaking process. The purpose of this document is to describe the SE setting within which the GSENM exists and to provide an SE context for the MMP-A National Environmental Policy Act (NEPA) process for Agency and Cooperating Agency personnel. Although environmental justice is a key aspect of examining the socioeconomic context for any public land management decision, it will not be addressed within this report. Rather, it is being addressed in other analyses associated with this plan amendment.

For each of the following general subjects, this baseline report includes an overview for the study area as a whole plus some additional detailed discussion for each of the three counties within the study area boundaries: Potentially affected communities and groups of people; cultural context; social conditions; and economic conditions, including market and non-market values. In addition, a final section gives an overview of the work done to date in gathering data for the socioeconomic analyses that will be completed as the MMP-A development proceeds in future months. As the MMP-A analysis proceeds, the specific variables to be analyzed will be determined. These are expected to include: estimated qualitative impacts on multiple industrial sectors of the region’s economy, including agriculture, livestock operations, tourism, and recreation, among others. For livestock operations in particular, impacts on gross and net revenues will be estimated in dollar terms, and direct, indirect, and induced effects within the regional economy will also be estimated. In addition, expected social impacts will also be evaluated for each alternative considered in the decisionmaking process.

As is noted in the report below, there are a few issues that are of particular concern to regional leaders: The predominance of federal lands in the region means that many land use decisions are made by federal officials; cooperation between federal, state, county, and local leaders is important to successful economic development in the Monument region. Over time, tourism has become an increasingly more important part of the economy, and federal and state lands play a central role in attracting visitors to the area. There are only limited routes through several parts of the region, and many tourists pass through without stopping for very long. The counties in the study area have expressed interest in engaging in ongoing efforts to develop

destination tourism opportunities as a means of economic development. Also of high importance to leaders in the region is recognition of the important role that grazing and the ranching sector play in the economy. In spite of losing money in recent years, ranching enterprises stimulate economic activity within the area around GSENM. As mentioned below, at least three independent studies have shown that through multiplier effects, each AUM permitted for use in the region generates approximately \$100 in economic activity within Kane and Garfield Counties. Ranchers hire workers, make payments on bank loans, buy supplies, and engage in other types of commercial activity, stimulating economic ripple effects within the community. Revenues from livestock operations made up more than 80% of all agricultural revenues in the study area in 2012, bringing in more than \$12 million in revenues in 2012 alone in the two Utah counties. Adding Coconino County brings the total up to more than \$35 million in revenues.<sup>1</sup> While agricultural enterprises in the region have lost money during the past decade, they have continued to serve as a means of channeling a flow of money from outside the region into the communities within the GSENM area. In addition, ranchers and their livestock serve as an attraction for visitors who want to see real cowboys at work, providing a support service to the tourism industry.

Ranchers are dependent on healthy range conditions to provide forage for their livestock. To the degree that range health deteriorates, fewer livestock can be supported on the range without endangering the long-term viability of ranching operations.<sup>2</sup> When rangelands are healthy, the probability of financial success in a given year increases for grazing permit holders.

Data included in this baseline report come from multiple sources. First, the bulk of data in the report were provided by individual- and multiple-county reports generated by the Economic Profile System (EPS), a socioeconomic data compilation and analysis software program maintained by Headwaters Economics, a non-profit research organization. The development of this program was funded by BLM, USDA Forest Service (FS), and other public entities. EPS reports are based on data from multiple federal and non-federal sources, including the U.S. Census Bureau, the Bureau of Economic Analysis, the USDA Economic Research Service, the Bureau of Labor Statistics, the Office of Management and Budget, industry data sources, and more. Products associated with EPS and Headwaters Economics are available at no cost to the public and include individual county reports for all counties in the U.S. in addition to subject matter reports related to public lands, regional economics, and other topics of interest to government officials, public land managers, and public citizens.<sup>3</sup> Additional sources of data used in this baseline report include BLM archives, local officials and agricultural producers within the GSENM region, and BLM employees who work in or near the Monument.

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<sup>1</sup> USDA 2012 Census of Agriculture County Reports

<sup>2</sup> Specific range conditions are outside the scope of this document. A study is currently underway, surveying range conditions on the Monument.

<sup>3</sup> <http://headwaterseconomics.org/>

## 2. STUDY AREA OVERVIEW

The Monument is situated in south-central Utah just north of the Utah/Arizona border. The socioeconomic study area includes the three counties that are most closely tied to GSENM.

### 2.1. Potentially Affected Communities

SE analysis presents unique challenges within a natural resource planning setting due to the nature of the available data. SE data are gathered by multiple government and private agencies and organizations and are usually available in geographic areas that are demarcated by the U.S. Bureau of the Census, the U.S. Bureau of Labor Statistics, state offices of planning and budget and economics, counties and others. Because of the methods and limitations on the collection of SE data, the study area is not the same as the planning area. In this instance, the study area expands beyond the boundaries of GSENM and includes all of Coconino County in Arizona, and Garfield and Kane Counties in Utah, an area of just under 28,000 square miles. In addition to data availability, there is another reason for expanding the boundaries of the SE study area: Although there are some private inholdings within its boundaries, the Monument itself is uninhabited. It is only the impacts on surrounding communities, regional economies, state-level entities, and other outside interested parties that are relevant in evaluating the socioeconomic impacts of decisions made regarding the management of resources on the Monument, including grazing-related resources.

The bulk of this report will focus on Garfield, Kane, and Coconino Counties. The towns between which the Monument is situated, and which are the most directly connected with and affected by Monument management decisions, include Kanab, Big Water, Mount Carmel Junction, Orderville, Glendale, Alton, Tropic, Cannonville, Henrieville, Escalante, and Boulder in Utah, and Page and Fredonia in Arizona. People who do not live within the immediate area around the Monument but who are interested in the Monument—or who are affected by impacts to the communities around the Monument—are also stakeholders in Monument management decisions.

Non-GSENM BLM lands in the surrounding area are managed by the Kanab Field Office, the Arizona Strip Field Office, and the Richfield Field Office. GSENM is managed by the BLM, and in addition to managing livestock grazing on BLM lands within the planning area the BLM also administers livestock grazing on approximately 318,000 acres of NPS, Glen Canyon National Recreation Area. In addition to BLM lands, there are other federal lands outside of the Monument that could potentially be affected by decisions regarding Monument management. Lands managed by Dixie National Forest, NPS at Bryce Canyon and Capitol Reef National Parks, State Institutional Trust Lands (SITLA), and Utah State Parks all fall within the study area. In addition to the three local counties, Arizona, Utah, and the U.S. as a whole are also included in the economic and social statistics reported.

Under the provisions of The Federal Land Policy and Management Act of 1976, as amended (FLPMA), the BLM is directed to the extent consistent with Federal law and purposes of FLPMA, to manage the lands within its jurisdiction in alignment with State and local laws and ordinances. Recently-adopted Utah State legislation and county ordinances in the GSENM area highlight grazing as a key component of the region's economy and culture.

### **Garfield County Plans and Policies**

The Garfield County Economic Development Plan of December 2007 lays out the following vision statement:

“Garfield County is rich in agricultural, natural, cultural, and human resources. Quality soils, topography, climate and forests, the concentration of national parks with their recreation areas and scenic beauty create an environment rivaled by few other areas. These natural features enrich our economy and the lives of our citizens. Garfield County is also steeped in historic tradition and pioneer heritage. Cities and Towns have a strong sense of identity, retaining original design elements from pioneer times. These original design elements act as a good framework for continuous and steady development. From these resources and features emerged our local culture, character and economy.

“We are challenged, as we look to the future, to protect the quality of our environment and its inherent quality of life while meeting the needs of all of our citizens. This special place has been purchased at a high cost, one of diminishing job opportunities, particularly for our young citizens. Although our economy has expanded from chiefly farm-based and natural resource extraction, one which includes industry, retail and tourism, and other service-oriented businesses, we must continue to seek innovative ways to diversify our economy and provide job opportunities for all Garfield County citizens. Vigilantly safeguarding those precious and irreplaceable resources unique to Garfield County and wisely planning for change, we look forward to the challenge.”<sup>4</sup>

The Economic Development Plan goes on to describe strengths, weaknesses, opportunities, and threats that provide guidance to community leaders in making decisions and taking actions to protect, enhance, and enrich the County SE landscape.

In 2013, Garfield County passed a County ordinance establishing the Escalante Historic/Cultural Grazing Region (EHCGR) and recognizing grazing as a historically and culturally significant activity which has contributed to local values for more than a century. In part, the ordinance states that the highest management priority for lands within the EHCGR is responsible management, enhancement, and development of existing and future grazing resources in order to provide protection for resources, objects, customs, culture, and values associated with grazing in the American West.

The Garfield County ordinance also specifically recognizes “multiple use” management as being compatible with grazing activities within the EHCGR and encourages responsible development of mineral and recreation resources within the EHCGR.

The EHCGR’s boundaries comprise that part of GSENM which falls within Garfield County.

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<sup>4</sup> <http://garfield.utah.gov/wp-content/uploads/2014/05/Garfield-Economic-Development-Plan.pdf>

### **Kane County Plans and Policies**

In 2014, the Utah State Legislature passed House Bill (H.B.) 158, which established Utah Grazing Agricultural Commodity Zones and Utah Timber Agricultural Commodity Zones. This bill was amended during the 2015 legislative session to add Washington County, Utah, and to clarify some language included in the 2014 bill. Among other purposes, this law was written for the purpose of preserving and protecting the “agricultural livestock industry” and to “maximize efficient and responsible restoration, reclamation, preservation, enhancement, and development of grazing and water resources.” In response to the newly passed State law, the Kane County General Plan, as adopted on June 23, 2014 and as amended on July 27, 2014 in Kane County Ordinance No. 2014 – 11, added Chapter 27 of the Escalante Region Multiple Use/Multiple Functions Grazing Zone, as outline in H.B. 158, to the Kane County land use ordinance.<sup>5</sup> Kane County’s Resources Management Plan as amended by Kane County Resolution No. 2015 - 5<sup>6</sup>, along with the General Plan, has been in place since 1998 and has been undergoing revisions during the past few years. These two documents describe in extensive detail the County’s policies with respect to grazing and other resource-related subjects, and they provide information central to the process of coordination and cooperation between the County and land management agencies.

Kane County Ordinance No. 2014 - 6 outlines in detail the value of grazing to the local community within Kane County, specifying the many aspects of county life that are connected with and affected by livestock grazing, both from an economic standpoint and as related to general local culture. The ordinance states in part, “The highest management priorities for lands within the Escalante Region Grazing Zone are responsible management, enhancement, and restoration of historic sagebrush steppe landscapes and development of existing and future livestock grazing resources, in order to provide protection for resources, customs, culture, and values of Kane County.” In addition, Kane County Ordinance No. 2014 – 11 recognizes the value of the ranching history of the region for reasons beyond production of cattle, stating, “The cowboy lifestyle has helped develop the character of Kane County, and this has been represented in multiple western movies filmed in the area. It is surprising how many people visit the county just to see where the movies were filmed, and take pictures of livestock and cowboys. The local festival and tradition called *Western Legends* depends on the cowboy icon and is centered on that historical figure. In essence, ranching and livestock grazing has a direct link to the local tourism industry.”

### **Coconino County Plans and Policies**

Coconino County is currently in the process of revising their County Plan. Their current plan does not include any planning, zoning, or other ordinances that specifically relate to GSENM.

## **2.2. Potentially Affected Groups and Individuals**

GSENM is used and/or visited by people from the local community, the surrounding region, other areas of the U.S., and from other nations. To better understand the social and cultural context within which the GSENM Livestock Grazing Plan Amendment is being developed, some

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<sup>5</sup> Kane County, Utah General Plan For the Physical Development of the Unincorporated Area Pursuant to Section 17-27a-403 of Utah State Code, Adopted June 23, 2014, Amended July 27, 2014.

<sup>6</sup> [http://kane.utah.gov/att/38/store/m8\\_R-2015-5-Kane-County-Resource-Management-Plan.pdf](http://kane.utah.gov/att/38/store/m8_R-2015-5-Kane-County-Resource-Management-Plan.pdf)

key groups are described below. Although these are shown as separate categories, many interactive and iterative effects ripple back and forth between them as economic and social activities spread and compound both positive and negative effects from changes in Monument management.

#### ***Traditional Land Users***

Prior to the arrival of settlers of European descent, ancient peoples including the Puebloan people (also known as the Anasazi) lived within the south-central area of Utah. In more recent years, the Paiute and Shoshone peoples inhabited areas of south-central Utah, while the Navajo settled in the Four Corners area, including southeastern Utah and northern Arizona. With the arrival of Spanish explorers and then Latter-day Saint (Mormon) immigrants, native communities were gradually displaced from the area of GSENM. Although few Native Americans live within Garfield and Kane Counties, there are many Native Americans living in Coconino County. Members of various Tribes in Utah and Arizona continue to have a stake in how the Monument and its archaeological resources are managed. GSENM conducts formal consultation annually with the Hopi, Zuni, Navajo, Ute Tribes, as well as with the Kaibab Band of Paiute Indians and Paiute Indian Tribes of Utah (PITU).<sup>7</sup>

#### ***Ranchers***

In the late 1880s, as Mormons colonized areas of the Intermountain and Southwest regions of the U.S., ranching quickly became an important part of the economic and cultural landscape in the desert regions of the west. In the early days of ranching in the region, herds of both sheep and cattle were grazed on what is now GSENM. Many families that currently ranch in the region and that run cattle on the Monument are descendants of those early settlers. Multi-generational ranching and the traditional cowboy culture that has become largely invisible in many areas of the west, due to urbanization, are still prominent aspects of the GSENM region. No single group is more directly affected by BLM grazing management decisions on the Monument than ranchers who hold permits to graze livestock on the Monument.

#### ***Local Private Landowners***

Within the communities surrounding GSENM, landowners and citizens who are not directly involved in ranching are also impacted by BLM and NPS land management decisions. Because only a small percentage of the study area is private land, any public land management decision that affects private property values and other economic activities on private land will generate disproportionate impacts on both landowners and the counties in comparison with places where publicly-owned land makes up a small fraction of all land. Because of this disproportionate importance of public land management, local residents are sensitive to how decisions are made by BLM, FS, and other land management agency decisionmakers. In contrast, in places where public land makes up only a small percentage of land, public land management decisions have little or no impact on the majority of individual private landowners.

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<sup>7</sup> <http://www.learner.org/interactives/historymap/indians3.html>

### ***Recreational Users***

While recreation was already a primary use of public lands in Kane and Garfield Counties, designation of GSENM brought the Monument and its surrounding region to the attention of many more people outside of Utah and northern Arizona. Traditional local recreation has continued as increasing numbers of visitors from outside the region have made the GSENM area a popular stopping point on tours of the western U.S. Hikers, backpackers, photographers, car campers, drivers out to enjoy the scenery, canyoneers, climbers, people interested in wildlife viewing, OHV riders, picnickers, horseback riders, hunters, mountain and road bicyclists, ecotourists, artists, writers, participants in spiritual retreats, bus tour groups, and other tourists and recreationists are affected by BLM and NPS decisions. In turn, these users' spending and visitation patterns affect the local communities that host them and serve their needs for lodging, meals, supplies, and public safety services.

### ***Scientific Researchers***

For many years, researchers have visited the GSENM region, studying aspects of the area within multiple specific scientific disciplines such as geology, geomorphology, paleontology, social sciences, archaeology, watershed science, soil science, wildlife biology, and botany. Unique aspects of GSENM draw scientists from around the world. Beyond its singular geologic structure, the remoteness and relatively unimpacted nature of the Monument provide opportunities for learning that are unavailable in places that are more heavily affected by human visitation. The scientific community has a strong interest in how the Monument is managed, especially as that relates to areas where changes in management could either enhance or detract from prospective and/or ongoing research programs or could alter the investigated environment.

### ***Others***

In addition to the specific groups described above, other individuals and groups have the potential to be impacted by Monument management decisions. Multiple non-governmental, environmental, conservation, and other organizations, both within and outside of Utah, as well as individuals aligned with them, have expressed interest in Monument management. It is possible that many people who have spent time in the past visiting the Monument from other places in the U.S. or from overseas, who deeply enjoyed the scenery and solitude that they experienced, have a strong sense of attachment to the Monument. Some of these people will likely be keenly interested in the MMP-A planning process as it becomes more visible to the public, and some of them could feel deeply affected on a personal level by potential changes in Monument management. Another category of people who could potentially be affected by Monument management decisions is travelers who pass through the area, but who do not fall into any of the tourist or recreational user categories outlined above. Should a change in management result in a change in local economic activity, and that increase or decrease could translate into a corresponding increase or decrease in the services available in one or more of the remote communities that serve travelers. Additional local and regional parties who could be directly or indirectly affected by changes in Monument management include business owners not mentioned above, workers, educators, government workers, developers, and so on.

Federal land managers are required by executive order to consider potential disproportionate impacts of their decisions on low-income, minority, and/or Native American populations. This

area of analysis, called environmental justice, is to be addressed in other documents connected with the MMP-A and will not be discussed in detail within this baseline report.

### 3. CULTURAL CONTEXT

#### 3.1. Study Area Overview

Life in the GSENM region has never been easy. The arid climate, rough topography, and isolated location have all contributed to the difficulty with which both ancient and modern communities in the area have been able to establish basic economic security. The rivers that flow through the region provide much needed water but also have created great challenges due to flooding, both causing repeated damage to structures and making transportation corridors difficult to develop and maintain. Although the development of modern transportation routes and vehicles has vastly improved the flow of people, goods, and services into, out of, and within the region, most of the communities within the GSENM area remain vulnerable to impacts from severe weather, loss of industries, and changes in how the vast public land holdings in the region are managed. The individual and community characteristics and values that developed over time within those difficult circumstances have been a source of pride for long-term residents for many years: Independence, adaptability, maintenance of local traditions, devotion to religious faith, and appreciation for the natural resources and scenic beauty of their surroundings are all aspects of the local culture that are deeply valued by many residents of the region. The cowboy culture that once was widespread within the American West, but that is no longer as prevalent as it once was in some of the west's more urbanized places, is still a central part of life within the GSENM area. It is important to many long-time residents of the region to preserve and celebrate the traditional cowboy lifestyle and the skills, knowledge, and cultural arts that are connected with it.

Since the late 1990s, an ongoing project collecting the thoughts and memories of residents of the area surrounding the Monument has documented experiences related to many aspects of life in south-central Utah:

“The Southern Oral History Project began in July 1998 when Grand Staircase-Escalante National Monument (GSENM) was established and BLM wanted to gather historical life ways and land use information from the surrounding communities. Local citizens in the small communities in Kane and Garfield counties of southern Utah that border the Monument manifest great interest in documenting and preserving the cultural history of the area. Funding for the project came from Bureau of Land Management. Grand Staircase-Escalante National Monument and Utah State Historical Society staffs entered into a partnership to carry out the project with Kent Powell of the Utah State Historical Society manager for the project. The aim of the oral history project is to preserve some of the memories and culture of long-time residents of the area. Preserving cultural history through oral history collection allows communities to survive by continuing to retell their stories, building bridges between the past and present, and enabling local residents

and visitors to the Monument and surrounding communities to engage in the area's unique culture.”<sup>8</sup>

When interviewed, some of the Oral History Project participants discussed various aspects of grazing in the region. While some mentioned specific issues related to BLM management of grazing on GSENM, most raised issues such as the physical and logistical difficulty of running sheep or cattle in the landscape that is now within the Monument's boundaries (sheep are no longer grazed within the Monument). For some, working through family conflicts, drought cycles, and market ups and downs has been a long-term challenge. Those who run cattle on GSENM today are faced with many of the same problems and challenges that faced those who were grazing in the area back in the early 1900s, as being in the livestock industry has always been a risk-laden endeavor.

Since 1909, when the predecessor of Zion National Park was set aside for special protection by President Taft, an increasing number of national monuments, state and national parks, and recreation areas of various types have been designated in southern Utah. Zion, Arches, Canyonlands, Bryce Canyon, and Capitol Reef National Parks, plus several national monuments, the Old Spanish National Historic Trail, and Glen Canyon National Recreation Area, Goblin Valley and other state parks, all draw tourists and recreationists to the region surrounding GSENM. From the turn of the twentieth century, tourism has played a central role in the economies of the communities that grew in the region. Prior to the designation of the Grand Staircase-Escalante National Monument, lands within the monument were also used for recreation. However, since the creation of the Monument, more recreation attention has begun to focus in the area. Visitors from other areas of Utah, the rest of the US, and other nations have provided a source of revenue flows and a catalyst for economic development in the region for many decades. In recent times, newcomers to communities within the region have brought with them ideas and ways of life that have added to the cultural complexities of the area. New businesses, new industries, facilities of various types that cater to the needs and interests of tourists, and non-traditional groups that have moved into the region have all altered and added to the social networks of Garfield, Kane, and Coconino Counties.

### **3.2. Garfield County Culture**

Garfield County is characterized by widely varied, beautiful topography and the internationally popular attractions created by it, including parts of Bryce Canyon and Capitol Reef National Parks, Glen Canyon National Recreation Area, Dixie National Forest, and GSENM, as well as Anasazi and Escalante State Parks.

As mentioned in the overview above, many long-time local residents place a high value on the traditional cowboy and ranching way of life. The remote locations of Escalante and Boulder and other smaller communities within the County have led their residents to develop a spirit of independence as well as a combination of self-reliance and a degree of community solidarity that lend themselves to supporting and protecting tradition and history within the region. In addition

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<sup>8</sup> Holland, Marsha, and Marietta Eaton, “The Southern Utah Oral History Project: A Record of Living with the Land”, Unpublished Manuscript, 2007. Selected interview transcripts available via multiple online sources.

to long-standing pioneer and ranching traditions, however, an appreciation for unique newcomers and their contributions to local business communities and societies has enabled the cultural aspects of Garfield County to develop and grow in complexity and variety over time.

Local residents cherish the history of the Mormon pioneers who either settled in the region or passed through on their way to locations further south. The Hole in the Rock pioneer route in particular, which runs south from Escalante down to and across the Colorado River, is a monument to perseverance in the face of adversity. Taking that type of approach to life in general, when faced with difficult challenges, is described by locals as being central to community and personal endeavors in the region.

### **3.3. Kane County Culture**

Like Garfield County, Kane County contains a variety of beautiful geologic features that attract visitors from around the world. Within the County boundaries are parts of Zion and Bryce Canyon National Parks, Glen Canyon National Recreation Area, Dixie National Forest, and GSENM, in addition to Coral Pink Sand Dunes and Kodachrome Basin State Parks. The County has a sub-culture associated with outfitters who run the Grand Canyon. It is also known for being the central location to use as a base camp for visiting several of the highly popular regional destinations, including the North Rim of the Grand Canyon, Zion and Bryce Canyon National Parks, and Lake Powell/Glen Canyon National Recreation Area, among others.

And as in Garfield County, Kane County geology has played a dominant role in shaping the economic opportunities and cultural fabric of local communities. Independence and resilience were necessary conditions for physical and economic survival in the region prior to the establishment of reliable trucking of goods into the area. Locals take pride in perpetuating the traditional values of self-reliance and maintenance of the skills necessary to living in harsh and often dangerous conditions. In the Kanab area, red rock mesas and extensive Navajo sandstone canyon walls complicate ranching operations. They have also provided the backdrop for many Hollywood movies. Kanab is famous for hosting a long string of film production crews and Hollywood stars that came to the area to make movies. That history is important to many residents of the area, who are proud of the role their local landscape has played in the film industry for many decades.

Another aspect of local culture in Kanab, one that has arisen in recent decades, is the establishment and continued development of the Best Friends Animal Sanctuary a few miles north of Kanab. This no-kill animal sanctuary is nationally known for its humane approach to animal rescue and rehabilitation. It is the nation's largest animal sanctuary of its kind and is Kane County's top employer. Visitors to the sanctuary, who come from across the US and from other countries, and the businesses that cater to them, add a different element to local culture than had existed in the region prior to when Best Friends gained its current status.

### **3.4. Coconino County Culture**

Coconino County, Arizona, is the second largest county in the U.S. in terms of land mass. Its cities, towns, and small communities are spread across a large area and are distinct from each other in terms of geography, economic structure, and demographics. Accordingly, there are wide differences in culture from one part of the County to another. The portion of the County that is most closely connected with GSENM is the northernmost part. Coconino County is

home to Grand Canyon National Park. The County's largest city is Flagstaff, which is more than 100 miles from the southern edge of GSENM. The communities of Fredonia and Page are both in close proximity to the Monument. Multiple ranchers who hold grazing permits on the Monument are based in the Page area.

Arizona culture is strongly influenced by Native American (primarily Navajo), Mexican, and Latter-day Saint peoples and their traditions. The Fredonia-Page slice of northern Arizona is closely tied to southern Utah due to both its location north of the Grand Canyon and the Colorado River and the long travel distances between this region and the larger communities within the County. The drive from Page to Flagstaff is more than two hours. From Fredonia to Flagstaff is nearly a three and a half hour drive. In contrast, to drive from Page to Kanab, Utah, takes just over one hour in good road conditions, and the drive from Fredonia to Kanab is only a few minutes long. Fredonia and Kanab are closely connected from an economic standpoint, and some workers commute to work across the Utah-Arizona state line. Retail shopping in Fredonia is very limited, and local residents rely on businesses in Kanab to meet many of their everyday needs.

Page provides accommodations and services for visitors to Lake Powell and travelers headed between Utah and the South Rim of the Grand Canyon and other Arizona destinations as well as serving the basic needs of workers at Glen Canyon Dam and the Navajo Generating Station power plant, which is located east of Page on the Navajo Reservation.

Coconino County is home to members of at least 27 different Alaska Native and American Indian tribes. Although there is quite a bit of diversity of tribes represented within the population, in 2013 the Navajo Nation made up more than 87 percent of native peoples within the County. The Pueblo, Apache, and Yuman tribes were the only other tribes that comprised more than 1 percent each of the total Alaska Native/American Indian population in Coconino County in that same year. Within the part of northern Coconino County that is influenced by GSENM, the Navajo tribe is the predominant American Indian tribe.

## 4. SOCIAL CONDITIONS

### 4.1. Study Area Overview

The basic demographic makeup within the SE study area varies between Garfield and Kane Counties, on one hand, and Coconino County, on the other. The basic population statistics for Coconino County are quite similar to those of the U.S. as a whole, while Garfield and Kane are very different in makeup from the U.S. The populations of Garfield and Kane Counties are markedly older than those of both Coconino County and the U.S., while the population of Coconino County is younger than that of the U.S. In the period from 2000 to 2012, the median age within the entire study area increased, although much more so in Garfield and Kane Counties. This could be a result of any combination of several possible causes: It could be that young people are moving away from their counties of birth as they graduate from high school and move into college and beyond; it could be the case that retirees are moving into these three counties at a rate that is higher than the birth rate, causing the median age to move upward and

it could also be that families sizes are decreasing within the study area, which would lead to older residents becoming a relatively larger portion of the population than they had been in the past. According to Census Bureau data, births outweighed deaths each year, on average, within the study area from 2000 to 2013. Net migration tended to contribute a small percentage of overall changes in population during the same period, indicating that more people wished to move to communities within the study area than wished to move away from them.

While the entirety of Coconino County has been included in most of the statistics that follow, the area of Arizona that is most closely connected with GSENM is the northernmost portion of the County, with Page and Fredonia being the communities most likely to be affected by Monument management decisions. In order to check whether data from the Flagstaff metropolitan area might be skewing the overall County data set, the following data were obtained from the U.S. Census Bureau's website and were evaluated in order to determine whether there might be obvious socioeconomic differences between Page and Fredonia, on the one hand, and all of Coconino County, on the other, that would show the northern strip of the County to be in distinctly more vulnerable socioeconomic conditions than the rest of the County.

Table 4.I.I. Comparison: Page, Fredonia, and Coconino County

Demographic Statistic	Page	Fredonia	Coconino County
Median Household Income (2009-2013)	\$61,748	\$45,167	\$49,555
Individuals below poverty level (percent)	18.2%	13.8%	23.0%
Educational Attainment : Percent high school graduate or higher	87.5%	87.2%	87.6%

As shown in the table above, the median annual household income in Page was about \$12,000 per year higher on average than that of Coconino County, while that of Fredonia was about \$4,300 per year lower during the reported time period. Both Page and Fredonia experienced lower poverty rates than did the County as a whole, and the percentage of the population having earned a high school diploma or higher was close to the same in all three areas.

Detailed data are more readily available for Page than for Fredonia. The following table displays statistics comparing Page with Coconino County for quite a few socioeconomic measures. In the "Difference" column, a negative number indicates that for a particular measure, Page has a lower value than does Coconino County. The converse is true for positive numbers.

Table 4.1.2. Comparison: Page and Coconino County

People QuickFacts	Page	Coconino County	Difference (Page vs Coconino County)
Population, percent change - April 1, 2010 to July 1, 2013	0.50%	1.70%	-1.20%
Persons under 5 years, percent, 2010	8.20%	6.20%	2.00%
Persons under 18 years, percent, 2010	29.60%	22.30%	7.30%
Persons 65 years and over, percent, 2010	9.00%	10.30%	-1.30%
Female persons, percent, 2010	49.60%	50.60%	-1.00%
White alone, percent, 2010 (a)	57.60%	66.40%	-8.80%
Black or African American alone, percent, 2010 (a)	0.30%	1.60%	-1.30%
American Indian and Alaska Native alone, percent, 2010 (a)	34.00%	27.40%	6.60%
Asian alone, percent, 2010 (a)	0.90%	1.70%	-0.80%
Native Hawaiian and Other Pacific Islander alone, percent, 2010 (a)	Z	0.20%	
Two or More Races, percent, 2010	5.00%	2.70%	2.30%
Hispanic or Latino, percent, 2010 (b)	7.30%	13.90%	-6.60%
White alone, not Hispanic or Latino, percent, 2010	54.00%	55.00%	-1.00%
Living in same house 1 year & over, percent, 2009-2013	82.00%	79.80%	2.20%
Foreign born persons, percent, 2009-2013	2.80%	5.30%	-2.50%
Language other than English spoken at home, percent of persons age 5+, 2009-2013	17.80%	23.50%	-5.70%
High school graduate or higher, percent of persons age 25+, 2009-2013	87.50%	87.60%	-0.10%
Bachelor's degree or higher, percent of persons age 25+, 2009-2013	22.60%	31.10%	-8.50%
Mean travel time to work (minutes), workers age 16+, 2009-2013	10.9	18.7	-7.8
Homeownership rate, 2009-2013	78.90%	59.50%	19.40%
Housing units in multi-unit structures, percent, 2009-2013	6.30%	19.10%	-12.80%
Median value of owner-occupied housing units, 2009-2013	\$160,500	\$220,400	-\$59,900
Persons per household, 2009-2013	2.83	2.74	0.09
Per capita money income in past 12 months (2013 dollars), 2009-2013	\$26,406	\$23,382	\$3,024
Median household income, 2009-2013	\$61,748	\$49,555	\$12,193
Persons below poverty level, percent, 2009-2013	18.20%	23.00%	-4.80%

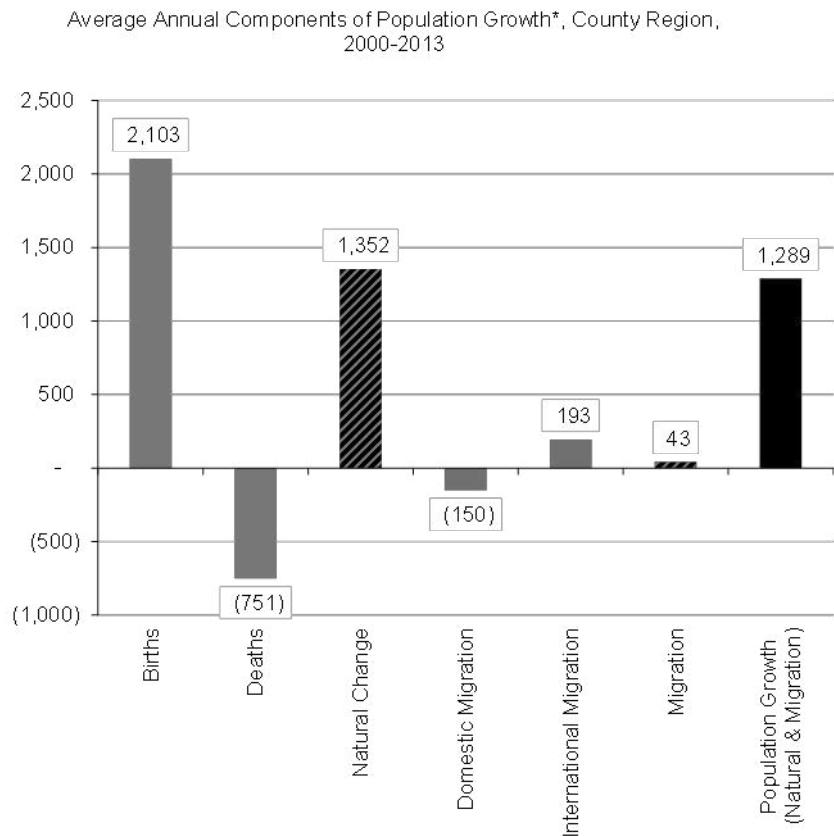
Business QuickFacts	Page	Coconino County	Difference
American Indian- and Alaska Native-owned firms, percent, 2007	8.10%	7.60%	0.50%
Asian-owned firms, percent, 2007	4.20%	2.10%	2.10%
Hispanic-owned firms, percent, 2007	4.70%	5.60%	-0.90%
Retail sales per capita, 2007	\$20,177	\$13,273	\$6,904
Persons per square mile, 2010	435.9	7.2	428.7

Data Source: U.S. Census Bureau, [www.census.gov](http://www.census.gov), accessed 07/24/15

During the period reported, Page had a somewhat younger population, slightly lower population growth, more American Indians and Alaskan Natives, and fewer people of Hispanic or Latino, Asian, or Black or African American heritage. For quite a few measures, the two geographies were similar. For example, there was only a slight difference between the two in the number of persons per household and per capita income. In contrast, for some measures there were stark differences. For instance, when compared with the County, home ownership rates in Page were almost 20 percentage points higher and retail sales per capita were more than 50% higher in Page. And in spite of a lower Asian population as a percentage of the total population, there was a higher percentages of Asian-owned businesses in Page than in the County. Generally speaking, the data indicate that Page has experienced more positive SE conditions in recent years than has Coconino County overall.

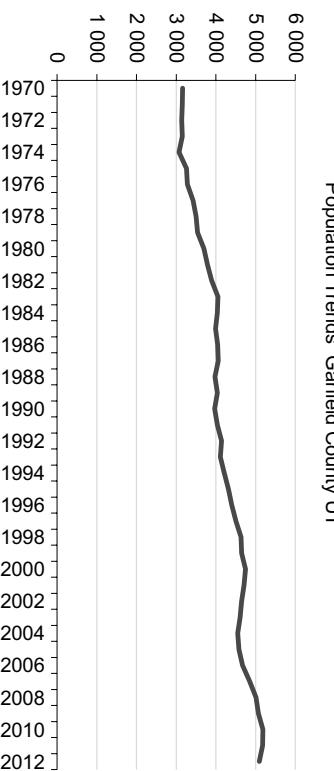
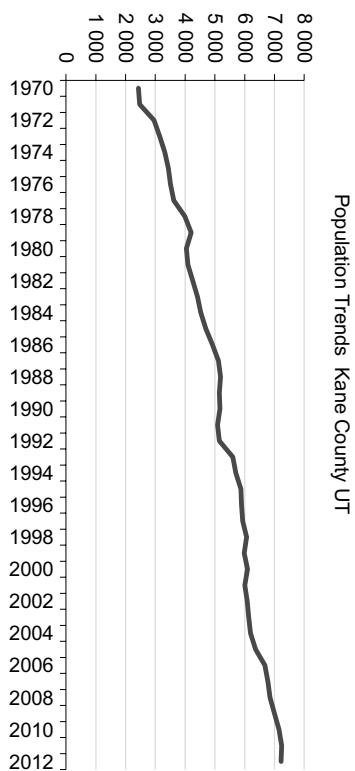
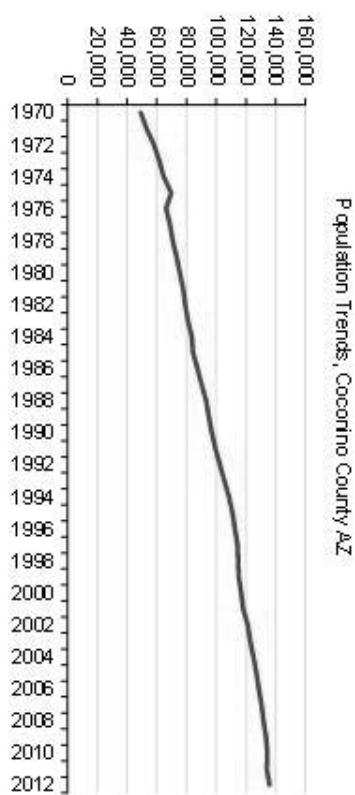
While Fredonia did have a lower median household income than the County during the period reported, its poverty rate was also lower. This indicates that there was a more narrow band of income and more favorable conditions in Fredonia than in Coconino County as a whole.

The three counties in the study area have collectively experienced steady population growth since 1970, although Garfield County has seen a slight decline in population growth in recent years; accordingly, the population of Garfield County has grown more slowly than have the populations of Coconino or Kane Counties. Most of the region's population growth has been internal, through births exceeding deaths, rather than being due to in-migration from outside.

**Figure 4.1.1. County Region Population Growth, 2000 to 2013**

\*The Census Bureau makes a minor statistical correction, called a “residual” which is omitted from the figure above. Because of this correction, natural change plus net migration may not add to total population change in the figure.

Figure 4.1.2. Population Trends, 1970 to 2012



Source: EPS-HDT, 2015

Table 4.1.3. Basic Population Statistics

<b>Basic Population Statistics</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Population (2012)	5,107	7,093	134,011	12,200	309,138,711
Population (2000)	4,735	6,046	116,320	10,781	281,421,906
Population Percent Change (2000-2012)	7.9%	17.3%	15.2%	13.2%	9.8%
Percent Male (2012)	51.7%	49.1%	49.6%	50.2%	49.2%
Percent Female (2012)	48.3%	50.9%	50.4%	49.8%	50.8%
Median Age (2012)	40.8	45.5	30.9	n/a	37.2
Median Age (2000)	33.8	39.1	29.6	n/a	35.3

Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.

The racial characteristics of the population of Coconino County are less similar to that of the U.S. than are its basic population characteristics. The Native American population in Coconino County is much higher as a percentage than is the case for the U.S. In addition, the populations of Garfield and Kane County are much less racially diverse than is the population of the U.S. as a whole.

Table 4.1.4. Population by Race

<b>Population by Race (2008 to 2012 average, percent of total)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
White alone	95.3%	97.3%	62.6%	96.5%	74.2%
Black or African American alone	0.3%	0.1%	1.3%	0.2%	12.6%
American Indian alone	1.9%	0.2%	27.2%	0.9%	0.8%
Asian alone	1.3%	0.1%	1.5%	0.3%	4.8%
Native Hawaiian & Other Pacific Islander alone	0.5%	0.1%	0.1%	0.3%	0.2%
Some other race alone	0.1%	1.4%	4.3%	0.8%	4.8%
Two or more races	0.6%	0.8%	3.0%	0.7%	2.7%
Hispanic or Latino (of any race)	4.6%	3.7%	13.5%	4.1%	16.4%

Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.

Similar to the variation in basic demographic statistics, the Native American populations of the three counties in the SE study area vary widely between the two Utah counties in contrast with Coconino County. Where members of only a few Native American tribes lived within Garfield and Kane Counties at the time of the 2012 Census report, members of many different tribes reported that they were living in Coconino County during the same reporting period.

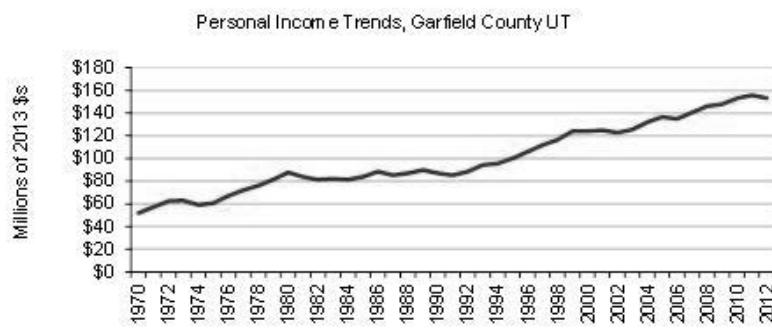
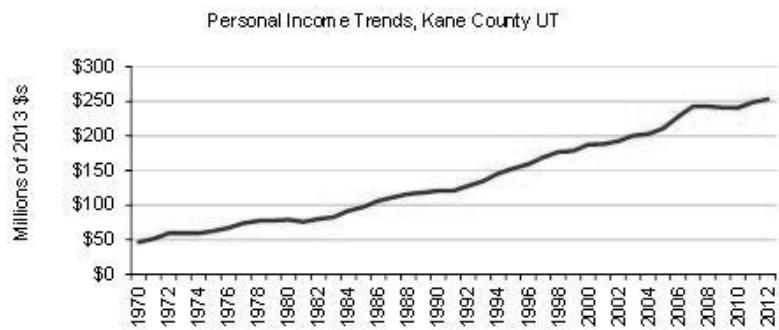
Table 4.1.5. American Indian & Alaska Native Population

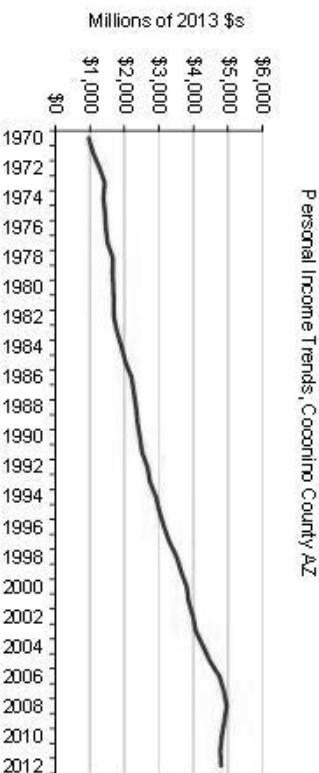
<b>American Indian &amp; Alaska Native Population (2008 to 2012, average)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Total Native American	97	14	36,501	111	2,529,100
American Indian Tribes; Specified	97	10	36,040	107	1,991,728
Apache	12	0	606	12	66,363
Blackfeet	0	0	18	0	25,520
Cherokee	6	0	76	6	271,804
Cheyenne	0	0	8	0	11,822
Chickasaw	0	0	13	0	21,897
Chippewa	0	0	22	0	114,020
Choctaw	0	0	100	0	87,895
Comanche	0	0	3	0	12,382
Cree	0	0	19	0	2,520
Crow	0	0	23	0	11,166
Iroquois	0	0	4	0	45,989
Navajo	79	8	31,726	87	304,122
Osage	0	0	7	0	7,881
Ottawa	0	0	70	0	7,201
Paiute	0	0	8	0	10,115
Pima	0	0	149	0	24,824
Pueblo	0	0	1,765	0	71,183
Seminole	0	0	21	0	14,262
Shoshone	0	0	26	0	8,629
Sioux	0	0	3	0	123,908
Tohono O'Odham	0	0	201	0	20,346
Yaqui	0	0	45	0	19,796
Yuman	0	0	401	0	7,463

<b>American Indian &amp; Alaska Native Population (2008 to 2012, average)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
All other tribes	0	2	726	2	499,028
American Indian; Not Specified	0	0	72	0	57,346
Alaska Native Tribes; Specified	0	0	26	0	105,280
Aleut	0	0	12	0	11,387
Eskimo	0	0	9	0	58,936
Tlingit-Haida	0	0	5	0	14,685
Alaska Native; Not Specified	0	0	156	0	10,142
American Indian or Alaska Native; Not Specified	0	4	207	4	364,604

Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.

Figure 4.1.3. Personal Income Trends, 1970 to 2012





Source: EPS-HDT, 2015

Within counties in the study area, per capita, median, and mean income are reported as being less than they are in the U.S. as a whole. At the same time, mean cash public assistance received per household is higher in Garfield and Kane Counties than in Coconino County or the U.S. Nominal retirement income is lower in Garfield County than in the other two counties in the study area. Due to its lower overall per household income, however, retirement income in Garfield County makes up a higher percentage of total household income.

Since 1960, total personal income in the study area has increased in real terms (adjusted for inflation) with a few decreases that largely correspond to national recessions. Garfield County's income growth was the slowest of the three, and Kane County's growth has been quite robust. All three counties experienced economic disruption during the 2007-2009 recession, but only Garfield County seems to continue to feel residual effects from the downturn, in terms of total personal income.

Table 4.I.6. Household Income

<b>Household Income (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Per Capita Income	\$22,238	\$25,885	\$22,664	n/a	\$28,051
Median Household Income	\$44,345	\$46,979	\$48,320	n/a	\$53,046
Mean Annual Household Income	\$50,417	\$52,158	\$60,428	\$51,480	\$74,373
Mean household Social Security income	\$16,164	\$17,616	\$16,442	\$17,039	\$16,727
Mean household retirement income	\$18,942	\$29,315	\$25,311	\$24,652	\$23,126
Mean household Supplemental Security Income	\$8,884	\$10,890	\$9,032	\$10,176	\$8,912

Household Income (2012)	Garfield County, UT	Kane County, UT	Coconino County, AZ	Kane-Garfield Two-County Region	United States
Mean household cash public assistance income	\$9,119	\$6,554	\$3,406	\$7,489	\$3,807
Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.					

Table 4.I.7. Components of Household Income

Components of Household Income (2012)	Garfield County, UT	Kane County, UT	Coconino County, AZ	Kane-Garfield Two-County Region	United States
Labor earnings	78.4%	76.4%	83.0%	77.2%	78.7%
Social Security	37.3%	35.2%	22.3%	36.0%	28.3%
Retirement income	25.2%	19.2%	16.7%	21.5%	17.6%
Supplemental Security Income	4.3%	4.8%	4.3%	4.6%	4.6%
Cash public assistance income	1.6%	1.7%	2.1%	1.6%	2.7%
Food Stamp/SNAP	9.8%	5.9%	12.4%	7.4%	11.4%
Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.					

Poverty rates for different categories of the population vary widely both within the study area and in comparison with the U.S. In general, poverty rates are lower in Garfield and Kane Counties than in the U.S., while in Coconino County they are higher than in the U.S. as a whole. When evaluated by race and ethnicity, poverty rates within the study area are similarly complex and varied. No clear patterns emerge when compared with the U.S., an indication that economic conditions in the counties around GSENM do not uniformly mirror national trends or statistics. What can be stated is that poverty rates for certain categories within the study area are markedly higher than in the U.S. as a whole.

Table 4.1.8. Percent of People in Poverty

Percent of People Who are Below the Poverty Line (2012)	Garfield County, UT	Kane County, UT	Coconino County, AZ	Kane-Garfield Two-County Region	United States
People	12.3%	7.6%	21.8%	9.5%	14.9%
Families	11.4%	3.7%	14.4%	6.9%	10.9%
People under 18 years	11.7%	11.4%	26.5%	11.5%	20.8%
People 65 years and older	13.3%	2.2%	13.4%	6.5%	9.4%
Families with related children under 18 years	10.8%	7.5%	21.1%	8.9%	17.2%
Married couple families	10.1%	1.4%	8.5%	4.9%	5.4%
Married couple families with children under 18 years	7.5%	3.2%	11.8%	4.9%	7.9%
Female householder, no husband present	20.6%	25.5%	31.8%	22.6%	30.1%
Female householder, no husband present with children under 18 years	26.4%	27.8%	41.2%	27.0%	39.1%

Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.

Table 4.1.9. Poverty Rates since 1960

Poverty Rates (percent of total population living in poverty)						
	1960	1970	1980	1990	2000	2010
United States	22.1%	13.7%	12.4%	13.1%	12.4%	14.9%
Arizona	15.4%	11.4%	10.3%	11.4%	9.4%	12.1%
Utah	24.9%	15.3%	13.2%	15.7%	13.9%	17.2%
Coconino County	34.8%	22.8%	20.4%	23.1%	18.2%	21.8%
Garfield County	31.3%	16.1%	12.0%	14.8%	8.1%	12.3%
Kane County	19.8%	12.4%	17.3%	16.3%	7.9%	7.6%

Sources: <https://www.census.gov/hhes/www/poverty/data/census/1960/index.html>  
[http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_12\\_5YR\\_S1701&prodType=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_12_5YR_S1701&prodType=table)

Table 4.1.10. Percent of People in Poverty by Race and Ethnicity

<b>Percent of People by Race and Ethnicity Who are Below the Poverty Line (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
White alone	11.3%	7.8%	15.4%	9.2%	12.1%
Black or African American alone	0.0%	0.0%	19.7%	0.0%	26.5%
American Indian alone	53.5%	0.0%	33.1%	47.9%	27.8%
Asian alone	33.8%	0.0%	34.9%	30.6%	12.1%
Native Hawaiian & Oceanic alone	30.0%	0.0%	14.6%	18.8%	18.7%
Some other race alone	0.0%	0.0%	27.6%	0.0%	26.1%
Two or more races alone	15.0%	0.0%	36.7%	4.8%	19.4%
Hispanic or Latino alone	19.9%	18.7%	30.1%	19.3%	24.1%
Non-Hispanic/Latino alone	11.0%	7.2%	13.8%	8.8%	10.3%
Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.					

Educational attainment statistics in the study area indicate that the people living around GSENM tend to be high school graduates at a higher rate than in the rest of the U.S. For higher education, however, rates of completion tend to be lower within the study area. This could be evidence of either fewer opportunities for pursuing graduate degrees or a lower educational requirement for employment within the region, or both. It could also be that some people in the study area simply do not wish to pursue higher education or that some people, who are supported by others, do not work and therefore do not seek higher education, or both.

Table 4.1.11. Educational Attainment

<b>Educational Attainment, Population Age 25 and Older (2008-2012), as Reported by Survey Respondents</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
No high school degree	8.9%	5.3%	12.9%	6.8%	14.3%
High school graduate	91.1%	94.7%	87.1%	93.2%	85.7%
Associate's degree	9.6%	8.8%	8.4%	9.1%	7.7%
Bachelor's degree or higher	21.2%	27.1%	30.7%	24.7%	28.5%
Bachelor's degree	14.7%	19.5%	17.7%	17.6%	17.9%
Graduate or professional	6.5%	7.5%	12.9%	7.1%	10.6%
Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.					

Educational attainment refers to the highest level of education that an individual has completed. This is distinct from the level of schooling that an individual is attending. Data on educational attainment are derived from a single question that asks, "What is the highest grade of school...has completed, or the highest degree...has received?" This question was first implemented in the 1990 Decennial Census and changed in the Current Population Survey in 1992. Prior to this, respondents were asked a two-part question that asked respondents to report the highest grade they had attended, and whether or not they had completed that grade. For more information on the implementation of this change and its effects on the data see the report [Measuring Education in the Current Population Survey \[PDF - 859k\]](#) (Kominski and Siegel, 1993).

The response categories for the educational attainment question vary slightly by survey, but generally include the following categories:

- No schooling completed, or less than 1 year
- Nursery, kindergarten, and elementary (grades 1-8)
- High school (grades 9-12, no degree)
- High school graduate (or equivalent)
- Some college (1-4 years, no degree)
- Associate's degree (including occupational or academic degrees)
- Bachelor's degree (BA, BS, AB, etc.)
- Master's degree (MA, MS, MENG, MSW, etc.)
- Professional school degree (MD, DDC, JD, etc.)
- Doctorate degree (PhD, EdD, etc)

Depending on the survey, the educational attainment question may be asked only of adult household members. Even when data are collected from all household members regardless of age, the U.S. Census Bureau generally publishes data only for adults. Most publications focus on adults age 25 years and over, when education has been completed for most people.

For information on specific degrees and fields of study, see the [Survey of Income and Program Participation \(SIPP\) Data on Educational Attainment Web site](#).

Paying for housing in Garfield and Kane Counties requires a smaller percentage of household income than it does in the U.S. in general, while in Coconino County costs are similar to national housing costs. At first glance, it appears that the counties within the study area have a problem with a high number of vacant housing units. Upon closer inspection of the data, however, it becomes clear that vacation homes and recreational homes make up a large percentage of total housing units within the area around GSENM. Vacancy rates remain relatively high in the Garfield and Kane Counties when the large number of second, vacation, and other housing for occasional use only is taken into consideration. The percentage of properties available for either rent or purchase is lower in the study area than in the U.S. as a whole. The number of rental units remains lower in Garfield County than the national rate when vacation and other non-primary use housing is deleted from the analysis but normalizes for Kane and Coconino Counties.

Table 4.1.12. Housing Costs

<b>Housing Costs as a Percentage of Household Income (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Monthly cost <15% of household income	18.8%	22.2%	17.7%	20.9%	17.5%
Monthly cost >30% of household income	30.4%	32.2%	38.2%	31.5%	36.6%
Gross rent <15% of household income	27.7%	19.7%	12.5%	22.9%	10.8%
Gross rent >30% of household income	22.9%	39.2%	50.4%	32.7%	48.1%

Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.

Table 4.1.13. Housing Occupancy Rates

<b>Housing Occupancy Characteristics (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Occupied	53.8%	55.8%	72.3%	55.0%	87.5%
Vacant	46.2%	44.2%	27.7%	45.0%	12.5%
For rent	0.8%	2.0%	1.6%	1.5%	2.5%
Rented, not occupied	0.0%	0.0%	0.4%	0.0%	0.5%
For sale only	1.2%	1.3%	1.3%	1.3%	1.4%
Sold, not occupied	0.7%	0.5%	0.2%	0.6%	0.5%
For seasonal, recreational, or occasional use	34.1%	36.7%	21.6%	35.7%	3.8%
For migrant workers	1.2%	0.0%	0.0%	0.5%	0.0%
Other vacant	8.2%	3.7%	2.6%	5.4%	3.8%

Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.

Table 4.1.14. Housing Occupancy with Vacation, Recreational, or Occasional Use Housing Not Included

<b>Housing Occupancy Characteristics; Seasonal, Recreational, or Occasional Use Housing Deleted (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane- Garfield Two- County Region</b>	<b>United States</b>
Occupied	81.6%	88.1%	92.2%	87.5%	87.5%
Vacant	18.4%	11.9%	7.8%	12.5%	12.5%
For rent	1.2%	3.2%	2.0%	2.5%	2.5%
Rented, not occupied	0.0%	0.0%	0.5%	0.5%	0.5%
For sale only	1.8%	2.1%	1.6%	1.4%	1.4%
Sold, not occupied	1.1%	0.9%	0.3%	0.5%	0.5%
For migrant workers	1.8%	0.0%	0.0%	0.0%	0.0%
Other vacant	12.4%	5.8%	3.3%	3.8%	3.8%

Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.

Compared with workers in the U.S. as a whole, workers who live in the study area spend less time commuting to work, and a smaller percentage of them travel to work outside of their county of residence. This makes sense given that many of the larger cities in the U.S. draw workers from nearby counties and even states and that some large cities straddle county or state lines. In spite of working across county boundaries, the percentage of workers in the Garfield and Kane Counties who travel more than 60 minutes to work is relatively small at 3.4% of all workers 16 and over.

Table 4.1.15. Commuting Characteristics

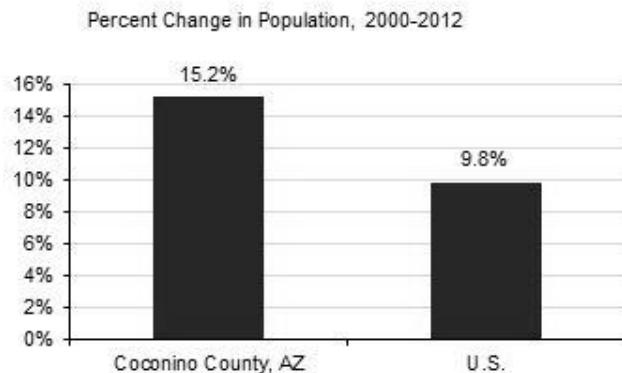
<b>Commuting Characteristics (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane- Garfield Two- County Region</b>	<b>United States</b>
Workers 16 years and over	2,351	3,412	63,849	5,763	139,893,639
PLACE OF WORK:					
Worked in county of residence (total)	2,151	2,905	59,430	5,056	101,446,008
Worked in county of residence (percentage of total)	91.5%	85.1%	93.1%	87.7%	72.5%
Worked outside county of residence (total)	200	507	4,419	707	38,447,631

Commuting Characteristics (2012)	Garfield County, UT	Kane County, UT	Coconino County, AZ	Kane-Garfield Two-County Region	United States
Worked outside county of residence (percentage of total)	8.5%	14.9%	6.9%	12.3%	27.5%
TRAVEL TIME TO WORK:					
Less than 10 minutes	59.9%	53.7%	26.3%	56.3%	13.1%
10 to 14 minutes	9.7%	11.3%	22.8%	10.7%	13.8%
15 to 19 minutes	6.4%	7.4%	16.1%	7.0%	14.9%
20 to 24 minutes	6.4%	7.4%	9.2%	7.0%	14.1%
25 to 29 minutes	0.9%	2.7%	3.2%	2.0%	5.8%
30 to 34 minutes	2.7%	5.1%	5.9%	4.1%	13.0%
35 to 39 minutes	1.5%	0.3%	0.7%	0.8%	2.6%
40 to 44 minutes	1.0%	0.9%	0.8%	0.9%	3.5%
45 to 59 minutes	1.9%	2.0%	3.0%	2.0%	7.2%
60 or more minutes	3.5%	3.3%	5.6%	3.4%	7.7%
Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.					

#### 4.2. Additional Coconino County Demographics

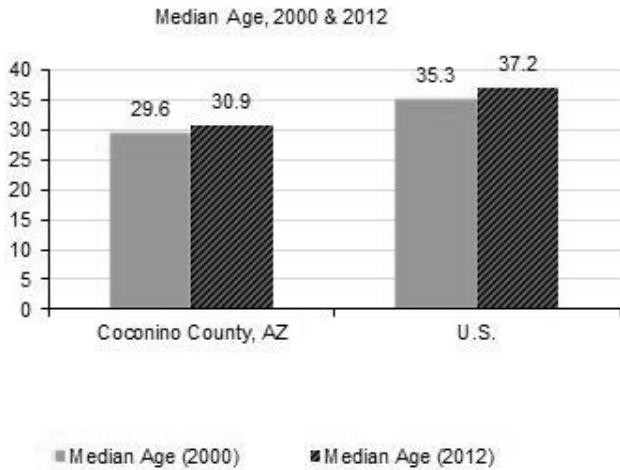
Because Coconino County is large in geographic size, differs in racial and ethnic makeup, and includes larger cities than are in the other two counties in the study area, in some respects the demographics of Coconino vary quite a bit from those of Garfield and Kane Counties, as described above.

Between 2000 and 2012, population growth in Coconino County outstripped that of the U.S. by more than 5 percentage points.

**Figure 4.2.1 Percent Change in Population, Coconino County, 2000 to 2012**

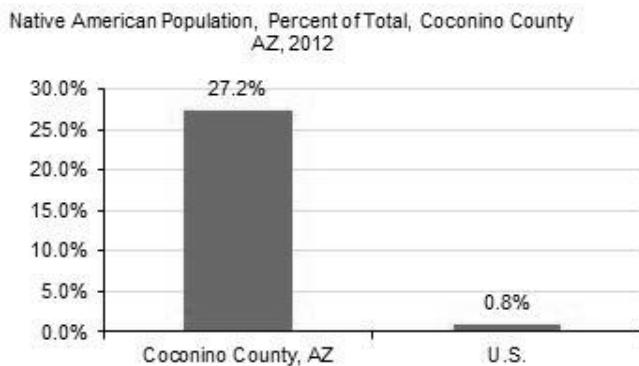
Source: EPS-HDT, 2015

In addition to growing faster than the U.S., Coconino County aged by fewer years than did the U.S. between 2000 and 2012.

**Figure 4.2.2. Median Age, Coconino County, 2000 and 2012**

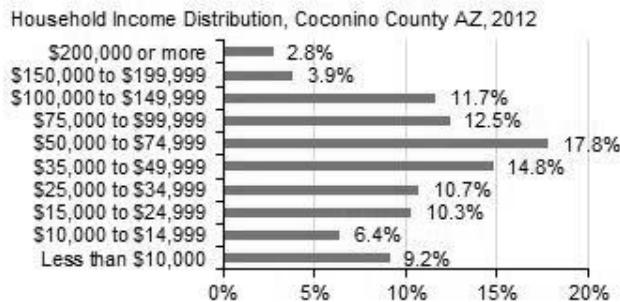
Source: EPS-HDT, 2015

One characteristic that is unique for Coconino County in comparison with both of the other counties in the study area and the U.S. is the higher percentage of Native Americans living within the County. As shown in the statistics reported, the Native American population in Coconino County is made up of members of many different recognized tribes.

**Figure 4.2.3. Native American Population, Coconino County, 2012**

Source: EPS-HDT, 2015

In Coconino County between 2008 and 2012, 2.8% of households earned \$200,000 or more per year while 9.2% of households earned less than \$10,000. 17.8% of households earned between \$50,000 and \$74,999, which was the largest category for household income for all three counties in the study area for this time period.

**Figure 4.2.4. Household Income Distribution, Coconino County, 2012**

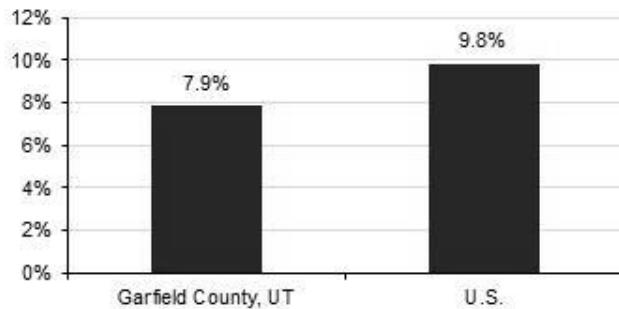
Source: EPS-HDT, 2015

#### 4.3. Additional Garfield County Demographics

Between 2000 and 2012, population growth in Garfield County was lower than that of the U.S. by approximately two percentage points.

**Figure 4.3.1 Percent Change in Population, Garfield County, 2000 to 2012**

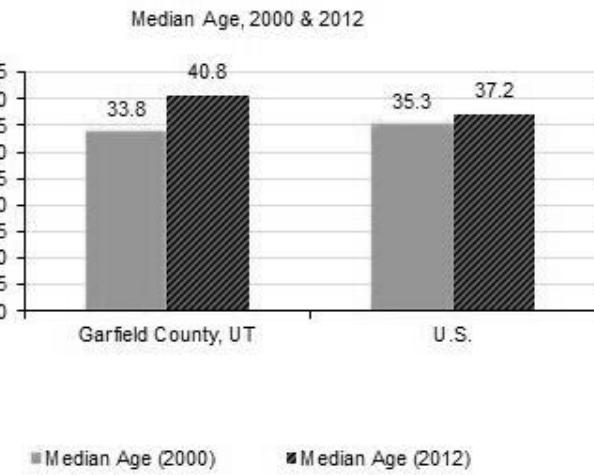
Percent Change in Population, 2000-2012



Source: EPS-HDT, 2015

At the same time as Garfield County's population grew more slowly than that of the U.S., the County's population aged more between 2000 and 2012.

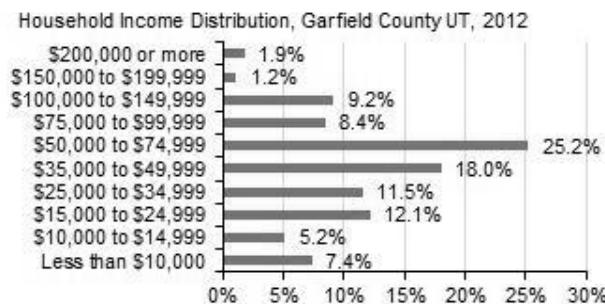
Figure 4.3.2. Median Age, Garfield County, 2000 and 2012



Source: EPS-HDT, 2015

In Garfield County between 2008 and 2012, 1.9% of households earned \$200,000 or more per year while 7.4% of households earned less than \$10,000. 25.5% of households earned between \$50,000 and \$74,999.

Figure 4.3.3. Household Income Distribution, Garfield County, 2008 to 2012

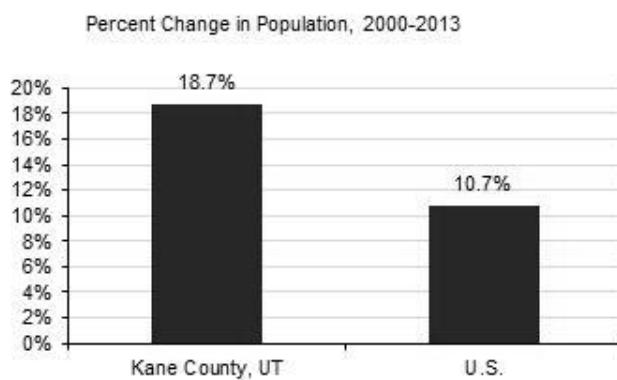


Source: EPS-HDT, 2015

#### 4.4. Additional Kane County Demographics

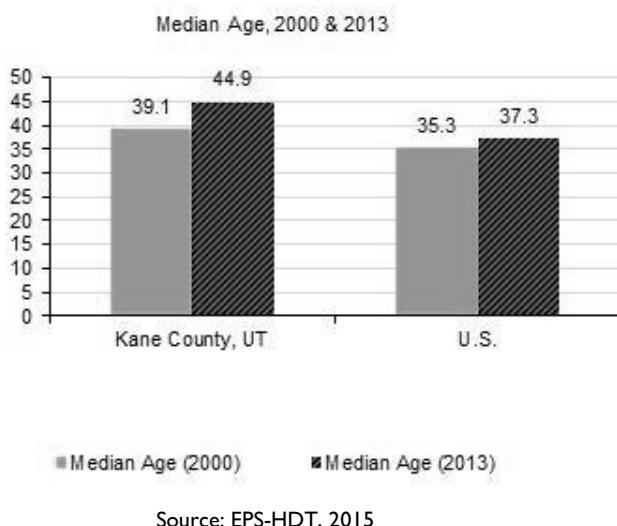
Between 2000 and 2012, population growth in Kane County was higher than that of the U.S. by eight full percentage points.

Figure 4.4.1 Percent Change in Population, Kane County, 2000 to 2013

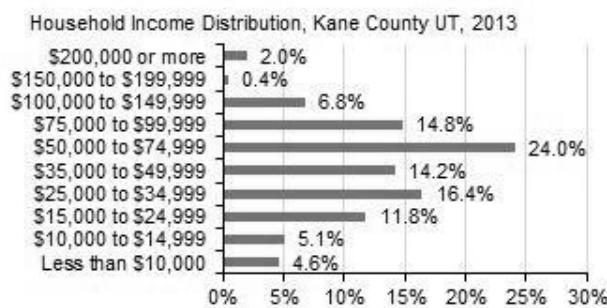


Source: EPS-HDT, 2015

As was the case in Garfield County, Kane County's population aged by more years from 2000 to 2012 than did that of the U.S. In that time period, median age in Kane County increased by 5.8 years in comparison with a national median age increase of 2 years.

**Figure 4.4.2. Median Age, Kane County, 2000 and 2013**

In Kane County between 2008 and 2012, 2% of households earned \$200,000 or more per year while 4.6% of households earned less than \$10,000. 24% of households earned between \$50,000 and \$74,999.

**Figure 4.4.3. Household Income Distribution, Kane County, 2008 to 2012**

Source: EPS-HDT, 2015

## 5. ECONOMIC CONDITIONS

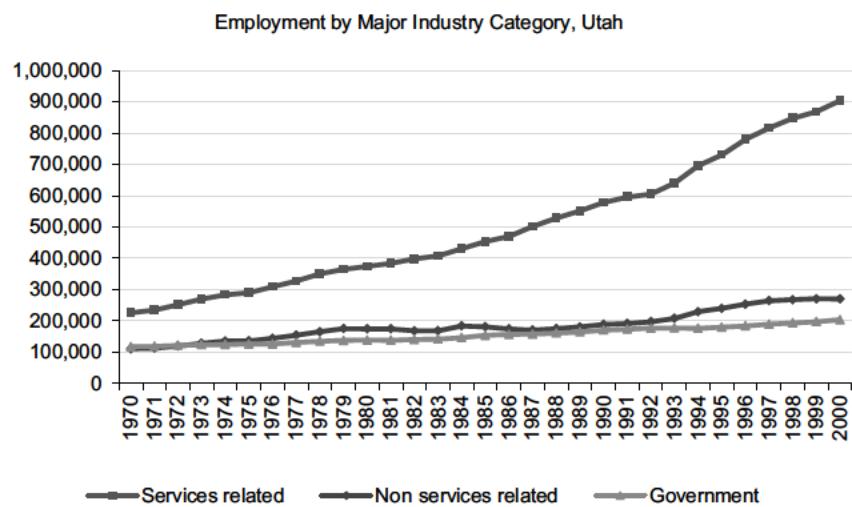
### 5.1. Study Area Economic Overview

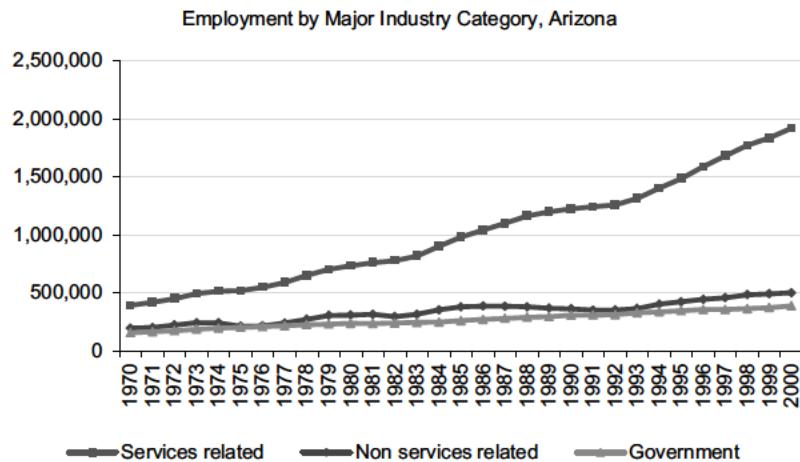
Within the three-county study area surrounding GSENM, most socioeconomic conditions vary from one county to another. For example, population growth from 1970 to 2012 ranged 61.1%

in Garfield County to 196.4% in Kane County with growth in all three counties exceeding that of the U.S.

For some economic sectors, trends in economic conditions within the study area have followed the national trend. An example is in the growth of the service sector as a leading source of employment. Service sector industries include, among others: utilities; wholesale trade; retail trade; transportation and warehousing; information technology and information services; finance and insurance; real estate, rental, and leasing services; professional and technical services; management of companies and enterprises; administrative and waste services; educational services; health care and social assistance; arts, entertainment, and recreation; accommodation and food services; and all other services except for public administration. Throughout the U.S., service sector jobs have become an increasingly important source of household income as manufacturing and extractive industries have declined over time at the national level, with the exception of oil and gas extraction. Arizona, Utah, and the overall study area are no exceptions, with service sector employment steadily increasing from 1970 up to the present. In contrast to those sectors in which the study area parallels trends for the U.S. as a whole, in some sectors there are marked differences. For example, in 2012, employment within the travel and tourism industry as a percentage of all employment in the study area was more than double that of the U.S. Travel and tourism play a larger role in the economies of the counties around the Monument than they do in the U.S. in general.

Figure 5.1.1. Employment by Major Industry Category, Utah and Arizona, 1970 to 2000





Source: EPS-HDT, 2015

A major reason for the importance of travel and tourism within the economy of the study area is the scenic nature of the region and the many opportunities for participating in recreation and leisure activities in the region. The geology and geography of the Monument region have played prominent roles in determining the types of economic activity that occur in the area, in part due to the limited nature of what was economically feasible in the region: For many years, long transportation distances, limited infrastructure, and a rugged landscape contributed to the limited nature of economic enterprises within the study area. In part because the region did not lend itself to successful traditional homesteading in the way that the Great Plains did, a significant percentage of land within the study area remained in federal ownership after Utah and Arizona achieved statehood. So the very nature of the landscape itself contributed to a circumstance of both limited economic opportunity and a high percentage of federal lands. In each of the three counties, total federal ownership of land is greater than the percentage for the U.S. in general. In Garfield County, more than 90% of all land is federally-owned. In comparison, the total percentage of federal land ownership for the entire U.S. is just under 29%. But with rapid growth of the leisure classes in the U.S., Europe, and Asia from the mid-20<sup>th</sup> Century to the present came an increasing influx of tourists, bringing with them new economic opportunities for both long-term residents and newcomers to the area. This corresponded to increases in population, employment, and income to the region, although internal growth rates were the primary driving force behind the expanding population. And with the advent of the technology and communication revolutions, being located in a geographically remote area is no longer a limiting factor in many business and economic enterprises. The changes that have occurred in recent years in infrastructure, transportation, and entrepreneurial opportunities have led to changes in the structures of the economies within the study area.

Out of the three counties within the study area during the period from 1970 to 2012, Kane County experienced the highest rates of growth in population, employment, and personal income. In addition, Kane County had the lowest unemployment rate of the three counties, with unemployment sitting at 5.4% as of 2013. Agriculture as a source of employment in 2012 was greatest in Garfield County, making up 7.8% of all employment in that year.

In 2012, in all three counties in the study area, government employment was somewhat greater as a percentage of all employment than it was in the U.S. as a whole. In the U.S., it was 13.4%. In Garfield and Kane Counties, government employment was around 16% of all employment, while in Coconino County it was 21.6%.

With higher non-labor income as a percentage of all income, the region around GSENM is less likely to be vulnerable to changes in the productive economy, but it is more likely to be vulnerable to changes in financial asset and other investment asset markets. As mentioned in the prior discussion of social conditions, the area appears to have a higher percentage of retired residents than does the U.S. This means that investment and retirement income will flow into these three counties at a higher rate than they do for the U.S. in general.

Table 5.1.1. Selected Socioeconomic Statistics

Selected Socioeconomic Statistics	Garfield County, UT	Kane County, UT	Coconino County, AZ	Kane-Garfield Two-County Region	Arizona (2013/2014 Data)	Utah (2013/2014 Data)	United States
Population % change, 1970-2012	61.1%	196.4%	176.6%	120.0%	269.2%	172.2%	54.0%
Employment % change, 1970-2012	143.8%	331.7%	316.0%	221.1%	354.3%	283.4%	96.8%
Personal income % change, 1970-2012	195.4%	446.6%	397.9%	313.9%	462.8%	365.2%	171.4%
Unemployment rate, 2013	9.4%	5.4%	8.1%	7.2%	6.9%	3.8%	7.4%
Average earnings per job (total earnings/total jobs), 2012 (2013 \$s)	\$24,628	\$30,232	\$40,164	\$27,730	\$50,780	\$47,732	\$55,501
Per capita income, 2012 (2013 \$s)	\$30,065	\$35,052	\$35,342	\$32,989	\$37,574	\$37,227	\$44,391
Non-Labor % of total personal income, 2012	43.4%	42.5%	37.2%	42.9%	38.4%	31.7%	35.4%
Services % of total private employment, 2012	95.0%	88.9%	83.9%	91.1%	74.8%	70.7%	85.0%
Government % of total employment, 2012	15.8%	16.0%	21.6%	15.9%	13.0%	14.0%	13.4%
Timber % of total private employment, 2012	0.0%	0.1%	0.5%	0.1%	0.3%	0.4%	0.7%
Mining % of total private employment, 2012	0.6%	0.7%	0.0%	0.7%	0.5%	1.0%	0.6%
Fossil fuels (oil, gas, & coal), 2012	0.6%	0.0%	0.0%	0.2%	0.0%	0.6%	0.5%
Other mining, 2012	0.0%	0.7%	0.0%	0.5%	0.5%	0.4%	0.1%

Selected Socioeconomic Statistics	Garfield County, UT	Kane County, UT	Coconino County, AZ	Kane-Garfield Two-County Region	Arizona (2013/2014 Data)	Utah (2013/2014 Data)	United States
Agriculture % total employment, 2012	7.8%	2.8%	1.9%	5.0%	0.9%	1.1%	1.5%
Travel & Tourism % total private employment, 2012	54.3%	37.0%	34.6%	43.3%	17.4%	14.3%	15.3%
Federal Land % total land ownership	90.3%	86.2%	39.9%	88.5%	42.1%	64.6%	28.8%
Forest Service %	31.2%	4.6%	27.0%	19.5%	14.9%	14.9%	8.4%
BLM %	45.2%	63.5%	5.2%	53.3%	16.9%	42.2%	11.1%
Park Service %	13.9%	18.0%	6.7%	15.7%	3.6%	3.9%	3.4%
Military %	n/a	n/a	0.2%	n/a	3.8%	3.4%	1.1%
Other federal %	n/a	n/a	0.7%	n/a	2.9%	0.2%	4.7%
% of Federal land classified as Type A*	34.6%	77.9%	29.4%	53.2%	34.7%	18.2%	38.5%
Federal payments % of government revenue, FY07	4.0%	2.8%	3.6%	3.4%	n/a	1.4%	n/a
% Change in Total Land Area in Residential Property (expansion of land in residential use) 2000-2010	78.6%	59.1%	27.7%	67.3%	38.3%	34.8%	12.3%
Wildland-Urban Interface % developed, 2010	6.9%	4.3%	18.9%	5.1%	16.0%	6.6%	16.3%
Data for timber, mining, and travel and tourism-related are from County Business Patterns which excludes proprietors, and data for agriculture are from Bureau of Economic Analysis which includes proprietors.							
*Federal public lands that are managed primarily for natural, cultural, and recreational features. These lands include National Parks and Preserves (NPS), Wilderness (NPS, FWS, FS, BLM), National Conservation Areas (BLM), National Monuments (NPS, FS, BLM), National Recreation Areas (NPS, FS, BLM), National Wild and Scenic Rivers (NPS), Waterfowl Production Areas (FWS), Wildlife Management Areas (FWS), Research Natural Areas (FS, BLM), Areas of Critical Environmental Concern (BLM), and National Wildlife Refuges (FWS).							

In the region around GSENM in 2012, the most important industries, in terms of total employment, were: arts, entertainment, recreation, accommodation, and food; education, health care, and social assistance; and retail trade. While agriculture, forestry, fishing and hunting, and mining provided nearly 9% of all employment in Garfield County, at 3% this category of employment played a lesser role in Kane County's economy, and at 1.8% it was even less important in Coconino County as a percentage of all employment. For manufacturing as a category, the reverse was true: Coconino County had the greatest percentage (6.3%) and Garfield County the smallest (2.4%).

Another economic sector within the region is coal mining in Kane County. In 2015, Alton Coal's Coal Hollow Project, located just southeast of Alton, Utah, employs 54 miners and 46 truck drivers. Mine managers project that the mine will employ between 150 and 200 workers over the next 40 years.<sup>9</sup>

Table 5.1.2. Employment by Industry

Employment by Industry, Percent of Total (2012)	Garfield County, UT	Kane County, UT	Coconino County, AZ	Kane-Garfield Two-County Region	United States
Agriculture, forestry, fishing & hunting, mining	8.9%	3.0%	1.8%	5.4%	1.9%
Construction	5.0%	6.9%	6.9%	6.1%	6.5%
Manufacturing	2.4%	3.1%	6.3%	2.8%	10.6%
Wholesale trade	0.6%	1.1%	1.6%	0.9%	2.8%
Retail trade	8.6%	10.5%	12.5%	9.7%	11.6%
Transportation, warehousing, and utilities	6.2%	6.3%	5.5%	6.2%	5.0%
Information	6.6%	1.7%	1.0%	3.7%	2.2%
Finance and insurance, and real estate	3.0%	5.9%	3.9%	4.7%	6.7%
Professional, scientific, management, administrative, & waste management.	5.3%	6.3%	6.7%	5.9%	10.7%
Education, health care, & social assistance	19.9%	20.7%	26.7%	20.4%	22.9%
Arts, entertainment, recreation, accommodation, & food	28.8%	18.7%	16.9%	22.9%	9.2%
Other services, except public administration	1.4%	9.4%	3.8%	6.2%	4.9%
Public administration	3.4%	6.2%	6.4%	5.1%	4.9%

### 5.1.1 Agricultural Economy

Within the study area during 2012, both family and corporate farms experienced income losses rather than earning positive net income. As some farmers and ranchers have anecdotally reported, it is often only off-farm or off-ranch employment that allows farmers and ranchers to continue operations through economically bad years. In some years, federal agricultural subsidies and disaster payments, as well as payments for implementing conservation practices, serve to offset some of the losses incurred by farmers and ranchers in the study area.<sup>10</sup> Additionally, farmers and ranchers sometimes draw from equity in farm properties and productive capital in order to bridge from one good year to another, with one or more “down”

<sup>9</sup> Data provided by Kane County in a letter dated July 20, 2015.

<sup>10</sup> <http://farm.ewg.org/index.php>

years in between. In contrast with the region around the Monument, farming and ranching in the U.S. as a whole did well in 2012 from the standpoint of net income. In the study area, revenue from the sales of livestock and livestock-related products comprised more than 54% of total cash receipts and other farm or ranch income. And although ranches lose money during less-successful years, ranches and ranching families also spend a non-trivial amount of money within their communities and provide employment opportunities within the region. Evaluations conducted by BLM, USDA Natural Resources Conservation Service, and Utah State University Extension independently concluded that for each Animal Unit Month (AUM) of grazing permitted on the Monument, just under \$100 of economic activity is generated within the region through direct and indirect spending on goods and services.

In 2014, agricultural economist Dr. Gill Miller and Kevin Heaton of Utah State University's Cooperative Extension conducted analyses of the ranching economy within Garfield and Kane Counties.<sup>11</sup> The economic report concluded that:

“Replacing livestock grazing on the GSENM with [tourism] revenues would require substantial investment by the GSENM, local governments, and the private sector. The type of tourism would need to be changed to include destination tourism to use the resources and values of GSENM to sustain the economy of the Garfield-Kane County's region.

“Tourist visitations in the Garfield-Kane County's economic region are dependent upon fuel cost, income levels, and exchange rate. Therefore, tourist visitations are variable. Limiting or removing livestock grazing and replacing with tourism changes the culture, heritage and values of the region.

“The economic sustainability of the Garfield-Kane County's economic region is greatly weakened if GSENM livestock grazing allotments are lost by removing an industry, its supporting industries, and reducing the economic diversity of the region.

“Ranching families provide year-round stability to communities that have a relatively high population turnover rate.

“Ranching has fewer impacts on public safety, emergency, and other public infrastructure resources than tourism.”

In response to these concerns, the report suggests that, “...Garfield-Kane County's economic region, local governments, and citizens should vigorously oppose any livestock grazing plan that reduces or eliminates livestock grazing in GSENM.”

Although agricultural enterprises within the study area have not been financially healthy in recent years, they continue to contribute to other sectors of the regional economy through their contribution to attracting and entertaining tourists and recreational visitors to the area.

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<sup>11</sup> Detailed results from these analyses are reported in Section Three, Economic Conditions, of the Kane County Resource Management Plan, Kane County Resolution No. 2015 – 5. [http://kane.utah.gov/att/38/store/m8\\_R-2015-5-Kane-County-Resource-Management-Plan.pdf](http://kane.utah.gov/att/38/store/m8_R-2015-5-Kane-County-Resource-Management-Plan.pdf)

Interest in the cowboy culture, working agricultural lands, and the visible infrastructure associated with ranching (barns, corrals, cattle, etc.), locations and history associated with “western” film production is what attracts some visitors to the area. From this standpoint, some percentage of tourism-related expenditures can be attributed to the ranching industry as a secondary benefit of local agriculture.

Table 5.1.3. Farm Earnings

Farm Earnings in \$1,000s of 2013 Dollars (based on 2012 data)	Garfield County, UT	Kane County, UT	Coconino County, AZ	Kane-Garfield Two-County Region	United States
Farm Earnings	-\$4,080	-\$226	\$95	-\$4,307	\$101,282,790
Farm Proprietors' Income	-\$5,911	-\$695	-\$1,382	-\$6,607	\$77,787,570
Non-Farm Earnings	\$96,116	\$140,260	\$3,366,140	\$236,376	\$9,867,442,270
Total Cash Receipts & Other Income	\$10,353	\$11,302	\$32,988	\$21,655	\$471,139,975
Cash Receipts from Marketings	\$7,554	\$10,427	\$27,579	\$17,981	\$426,846,820
Livestock & Products	\$5,639	\$9,969	\$26,134	\$15,609	\$201,616,489
Crops	\$1,914	\$458	\$1,444	\$2,372	\$225,230,331
Other Income	\$2,799	\$875	\$5,409	\$3,674	\$44,293,155
Government Payments	\$81	\$0	\$481	\$81	\$10,794,642
Imputed Rent & Miscellaneous Income	\$2,718	\$875	\$4,928	\$3,593	\$33,498,513
Total Production Expenses	\$16,120	\$13,288	\$36,936	\$29,409	\$365,622,450
Realized Net Income (Receipts - Expenses)	-\$5,767	-\$1,986	-\$3,948	-\$7,754	\$105,517,524
Value of Inventory Change	-\$1,008	-\$397	-\$1,010	-\$1,405	-\$7,611,051
Total Net Income Including Corporate Farms	-\$6,775	-\$2,383	-\$4,958	-\$9,158	\$97,906,474
Source: EPS-HDT, 2015					

## 5.2. Local Connections with Public Lands

“Payments in Lieu of Taxes’ (PILT) are Federal payments to local governments that help offset losses in property taxes due to non-taxable Federal lands within their boundaries. The key law is Public Law 94-565, dated October 20, 1976. This law was rewritten and amended by Public Law 97-258 on September 13, 1982 and codified as Chapter 69, Title 31 of the United States Code. The law recognizes the inability of local governments to collect property taxes on Federally-owned land can create a financial impact.

“PILT payments help local governments carry out such vital services as firefighting and police protection, construction of public schools and roads, and search-and-rescue operations. The payments are made annually for tax-exempt Federal lands administered by the Bureau of Land Management, the National Park Service, the U.S. Fish and Wildlife Service (all agencies of the

Interior Department), the U.S. Forest Service (part of the U.S. Department of Agriculture), and for Federal water projects and some military installations. PILT payments are one of the ways the Federal Government can fulfill its role of being a good neighbor to local communities.”<sup>12</sup>

Forest Service payments are revenue-sharing payments that were originally based on timber operations within each county as authorized by the Twenty-Five Percent Fund Act of 1908. “In the late 1980s, due largely to declines in timber sale receipts, 1908 Act payments began to drop significantly and fluctuate. In 1994, Congress responded by providing ‘safety net payments’ to counties in northern California, western Oregon and western Washington. In 2000, Congress passed the Secure Rural Schools and Community Self-Determination Act that provided enhanced, stabilized payments to more states. It also created a forum for community interests to participate collaboratively in the selection of natural resource projects on the National Forests, and has assisted in community wildfire protection planning.”<sup>13</sup>

Table 5.2.1. Federal Land Payments

Federal Land Payments (2013)	Garfield County, UT	Kane County, UT	Coconino County, AZ	Kane-Garfield Two-County Region	United States
PILT	\$811,164	\$1,001,367	\$1,572,295	\$1,812,531	\$397,256,089
Forest Service Payments	\$1,454,826	\$125,622	\$4,266,554	\$1,580,448	\$306,058,822
BLM Payments <sup>14</sup>	\$60,554	\$52,425	\$36,868	\$112,979	\$66,579,030
Total Federal Land Payments by Geography of Origin (\$)	\$2,326,545	\$1,179,413	\$5,875,716	\$3,505,958	\$2,787,139,550

Source: EPS-HDT, 2015

Residents of the region surrounding GSENM, as well as organizations of various types that exist and/or operate in the area, are connected with public lands in and around the Monument on multiple levels and in many different ways. Ranchers in the region are closely connected with the land through grazing their cattle on allotments on BLM, Forest Service, and State lands in the area. The ranchers who run livestock on the Monument and other public lands surrounding it are very familiar with the landscape. Local law enforcement and public safety workers spend time patrolling and providing rescue services on publicly owned land units in the region and become well acquainted with its physical characteristics. Local residents who recreate on the public lands that surround their communities often have deep emotional connections with the

<sup>12</sup> <http://www.doi.gov/pilt/index.cfm>

<sup>13</sup> <http://www.usda.gov/wps/portal/usda/usdahome?contentid=2015%2F01%2F0011.xml>

<sup>14</sup> BLM Revenue Sharing: The BLM shares a portion of receipts generated on public lands with state and local governments, including grazing fees through the Taylor Grazing Act and timber receipts generated on Oregon and California (O & C) grant lands.

places they frequent. Even those residents who either rarely or never venture out onto public lands enjoy benefits from the scenic beauty that surrounds their communities. Ecologists have recognized that there is a special connection, often called a “sense of place”, that develops when someone lives close to or in a particular landscape. In addition to benefitting from the land in terms of the flow of federal payments to the community and the commodity values generated by the natural resource base it provides, local residents often enjoy emotional, physical, and spiritual benefits that come from that sense of place. Attachment to specific places can also develop in visitors who don’t live in the local area but who have a deep appreciation for the characteristics of the landscape and the non-market benefits it can provide.

### 5.3. Ecosystem Services

Economists sometimes divide all goods and services into two broad categories: Market, and non-market. “Market” goods and services are those for which a market exists or can exist, meaning that it is possible to buy and sell those goods and services. On the other hand, “non-market” goods and services are those that, for one reason or another, whether it is physical or legal, are not available for purchase and that cannot be sold. Public lands provide both market and non-market goods and services that are beneficial to communities, economies, groups, and individuals. An example of a non-market good provided by public lands is the water filtering service provided by an intact wetland on public land.

Although in theory many non-market ecosystem services could be privatized and sold in a market-based exchange, few of them are actually sold in any market either due to the basic public nature of the good or service (meaning that it is impossible to exclude anyone from using or enjoying it, and one person’s use or enjoyment of it does not affect another’s use or enjoyment, making it difficult or impossible to sell it for profit) or due to public ownership of the good or service. Most economists recognize both the market and non-market goods and services provided by public lands.

One way of categorizing ecosystem services, adapted from “Millennium Ecosystem Assessment: Ecosystems and Human Well Being,” divides them into provisioning, regulating, cultural, and supporting ecosystem services.

Figure 5.3.1. Millennium Ecosystem Assessment

Provisioning	Regulating	Cultural
Goods produced or provided by ecosystems	Benefits obtained from regulation of ecosystem processes	Non-material benefits from ecosystems
<ul style="list-style-type: none"> <li>• Food</li> <li>• Fresh water</li> <li>• Fuel wood</li> <li>• Genetic resources</li> </ul>	<ul style="list-style-type: none"> <li>• Climate regulation</li> <li>• Disease regulation</li> <li>• Flood regulation</li> </ul>	<ul style="list-style-type: none"> <li>• Spiritual</li> <li>• Recreational</li> <li>• Aesthetic</li> <li>• Inspirational</li> <li>• Educational</li> </ul>
Supporting		

Services necessary for production of other ecosystem services
<ul style="list-style-type: none"> <li>• Soil formation</li> <li>• Waste treatment and nutrient cycling</li> <li>• Primary production</li> </ul>

In 2008, the Sustainable Rangelands Roundtable published a report on sustainable management of grazing lands, entitled “Sustainable Rangelands Ecosystem Goods and Services.”<sup>15</sup> In this report, the authors provided a list of examples of ecosystem goods and services. They divide these into three categories: biological, hydrological/atmospheric, and miscellaneous.

Figure 5.3.2. Ecosystem Goods and Services Derived from Rangelands<sup>16</sup>

Biological	Hydrological/Atmospheric	Miscellaneous
Domestic Livestock	Drinking Water	Views and Scenes
Other Food for Human Consumption	Water for Economic Benefit	Cultural or Spiritual Resources
Forage for Livestock	Floods for Channel and Riparian Area Rejuvenation	Historical/Archeological Sites
Fiber	Flood Mitigation	Scientifically Significant Sites
Biofuels	Water Bodies for Recreation/Tourism	Recreation and Tourism Sites
Fishing, Hunting, and Viewing Wildlife	Minimizes Contributions of Chemicals and Particulates	Ornamental Resources
Biochemicals	Contributes to Clean, Fresh Air	Ceremonial Resources
Genetic Material	Hydrologic Energy Potential	
	Solar Energy Potential	
	Wind Energy Potential	

Regardless of how they are defined or categorized, the GSENM region provides a wide range of ecosystem goods and services, many of which are highly valued both by local residents and by visitors from outside the area. Examples of the market and non-market goods and services provided by GSENM are discussed below.

<sup>15</sup> Maczko, Kristie, and Lori Hidinger, editors, “Sustainable Rangelands Ecosystem Goods and Services”, Sustainable Rangelands Roundtable, 2008, accessed at [http://sustainable.rangelands.org/pdf/Ecosystem\\_Goods\\_Services.pdf](http://sustainable.rangelands.org/pdf/Ecosystem_Goods_Services.pdf), May 2015.

<sup>16</sup> Ibid. Page 18.

### **Market Values**

Some of the direct and indirect market goods and services provided by the planning area include: forage and water for livestock; game species of wildlife; locations for video recording and filming for TV and cinematic productions; and locations for both commercial and non-commercial recreation activities. Although the activity of viewing the scenery in the planning area does not itself constitute a market good or service, in its many forms (such as car tours, hiking excursions, backpacking trips, and so on) it does draw in customers for multiple business categories within the communities around the edges of the Monument. These businesses include motels, bed and breakfasts, grocery and other retail stores, restaurants, gas stations and convenience stores, clothing and souvenir shops, tour operators, auto repair and maintenance shops, medical service providers, and other retail and service establishments that cater to the needs of tourists and other visitors.

### **Non-market Values**

The Monument provides a broad range of non-market goods and services to the communities close to the planning area and to visitors from outside as well. Some examples include: the experience of solitude, as well as the opportunity to view uniquely sublime landscapes and scenery, and the spiritual and psychological benefits that can come from those experiences; opportunities for completing basic research on GSENM, including research in both physical and social sciences; educational opportunities for students, both who visit the planning area and who participate in regional in-class programs and in the web-based, global curriculum, [www.gsenmschool.org](http://www.gsenmschool.org), which is used by teachers and students around the world; habitat for non-game wildlife species; and so on.

### **5.4. Coconino County Economics**

Within Coconino County in 2013, service sector jobs made up 74% of all employment. Non-services jobs were 11.1% of jobs, and government employment provided the remaining 26% of jobs. An estimated 21.4% of all jobs were within State and local government agencies, and approximately 4.7% were federal or military jobs.

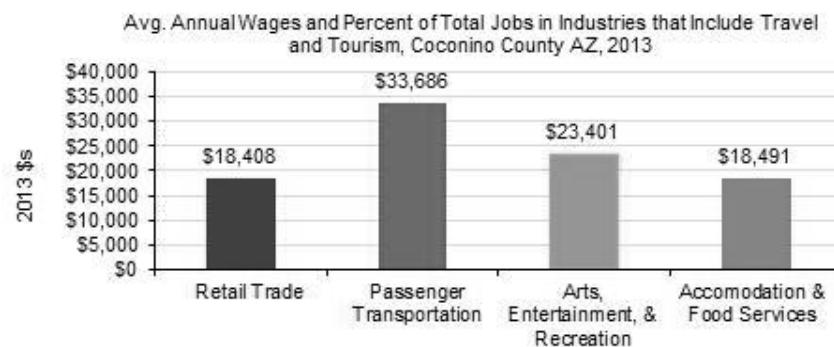
Table 5.4.1. Employment Sectors as a Percent of Total Employment, Coconino County, 2013

<b>Employment Sectors, Percent of Total Employment (2013)</b>	<b>Coconino County, AZ</b>	<b>United States</b>
Total Private Sector	74.0%	84.3%
Services	62.8%	69.5%
Trade, Transportation, Utilities	16.3%	19.1%
Information	0.7%	2.0%
Financial Activities	2.1%	5.7%
Professional and Business	4.7%	13.8%
Education and Health	15.1%	15.1%
Leisure and Hospitality	21.9%	10.6%
Other Services	2.1%	3.1%
Non-Services	11.1%	14.8%
Natural Resources and Mining	0.3%	1.5%
Construction	3.4%	4.3%

Employment Sectors, Percent of Total Employment (2013)	Coconino County, AZ	United States
Manufacturing (Including Forest Products)	7.4%	9.0%
Government	26.0%	15.7%
Federal	4.3%	1.9%
Military	0.4%	1.3%
State & Local	21.4%	12.5%
Source: EPS-HDT, 2015		

Travel and tourism contributed to the economy of Coconino County in 2013, where more than 25% of total jobs were within industries that serve the needs of travelers and tourists.

Figure 5.4.1. Travel and Tourism Jobs, Coconino County, 2013



Source: EPS-HDT, 2015

Figure 5.4.2. Average Annual Wages in Travel and Tourism, Coconino County, 2013

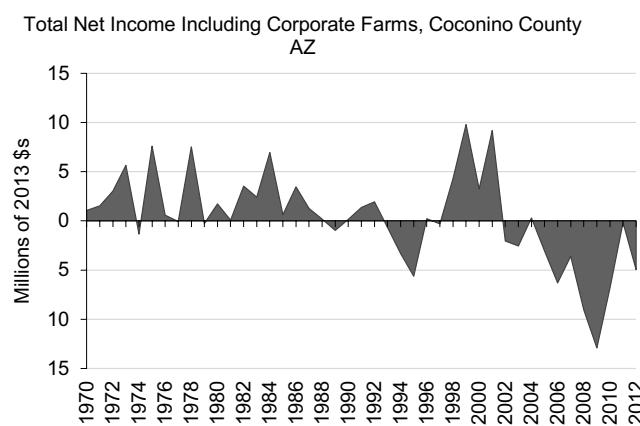


Source: EPS-HDT, 2015

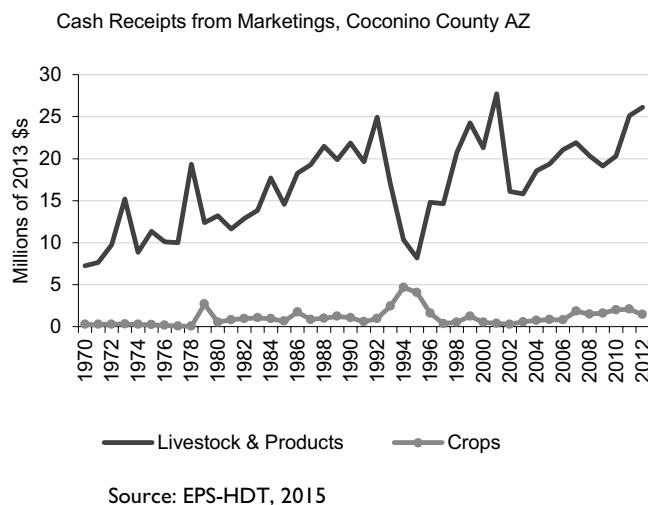
In Coconino County, the agricultural sector has struggled in recent years, with the industry realizing losses in each year since 2002.

Since 1970 within the agricultural sector in the County, cash receipts for livestock and livestock-related products have increased over time. Although some years have seen declines in livestock-related receipts, the trend has continued to be upward.

Figure 5.4.3. Net Farm Income, Coconino County, 2013



Source: EPS-HDT, 2015

Figure 5.4.4. Cash Receipts from Marketings,<sup>17</sup> Coconino County, 2013

## 5.5. Garfield County Economics

In 2013, service sector jobs made up 69.8% of all employment. Non-services jobs were 5.5% of jobs, and government employment provided the remaining 24.6% of jobs. An estimated 16.1% of all jobs were within State and local government agencies, and approximately 8.5% were federal or military jobs.

Table 5.5.1. Employment Sectors as a Percent of Total Employment, Garfield County, 2013

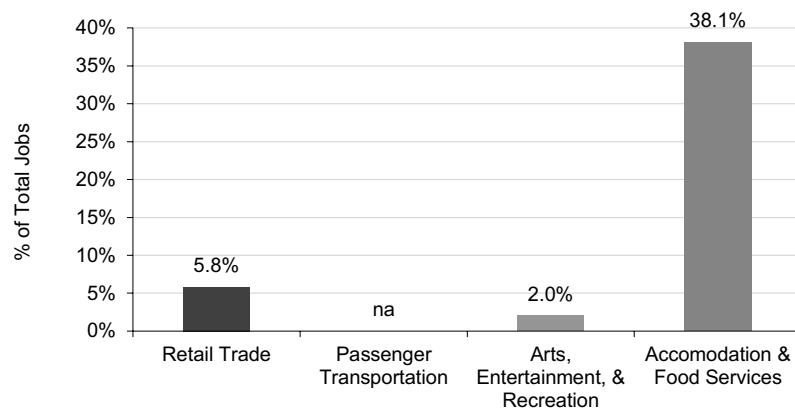
Employment Sectors, Percent of Total Employment (2013)	Garfield County, UT	United States
Total Private Sector	75.3%	84.3%
Services	69.8%	69.5%
Trade, Transportation, Utilities	12.2%	19.1%
Information	n/a	2.0%
Financial Activities	1.2%	5.7%
Professional and Business	0.9%	13.8%
Education and Health	10.9%	15.1%
Leisure and Hospitality	40.1%	10.6%
Other Services	n/a	3.1%
Non-Services	5.5%	14.8%

<sup>17</sup> Farm marketings represent quantities of agricultural products sold by farmers within a calendar year, multiplied by prices received per unit of production at the local market; in other words, gross receipts. <https://www.census.gov/prod/2011pubs/12statab/agricult.pdf>

<b>Employment Sectors, Percent of Total Employment (2013)</b>	<b>Garfield County, UT</b>	<b>United States</b>
Natural Resources and Mining	1.7%	1.5%
Construction	1.9%	4.3%
Manufacturing (Including Forest Products)	1.9%	9.0%
Government	24.6%	15.7%
Federal	7.6%	1.9%
Military	0.9%	1.3%
State & Local	16.1%	12.5%
Source: EPS-HDT, 2015		

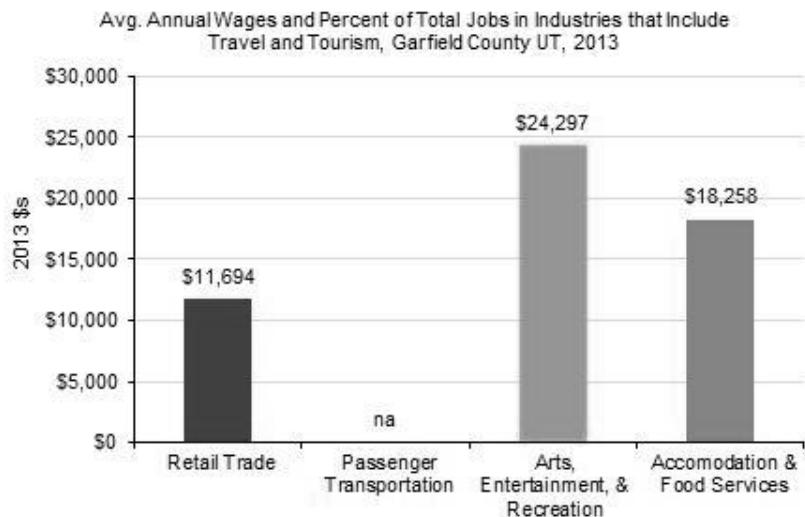
Travel and tourism contributed to the economy of Garfield County in 2013, where nearly 46% of total jobs were within industries that serve the needs of travelers and tourists.

Figure 5.5.1. Travel and Tourism Jobs, Garfield County, 2013



Source: EPS-HDT, 2015

Figure 5.5.2. Average Annual Wages in Travel and Tourism, Garfield County, 2013



Source: EPS-HDT, 2015

In Garfield County, as was the case in Coconino County, the agricultural sector has struggled in recent years, with the industry realizing losses in almost every year since 1994.

Since 1970, cash receipts for livestock and livestock-related products sold by Garfield County agricultural producers have increased over time, although in the 2000s they have faltered in comparison with how they had been growing prior to around the year 2000.

Figure 5.5.3. Net Farm Income, Garfield County, 2013

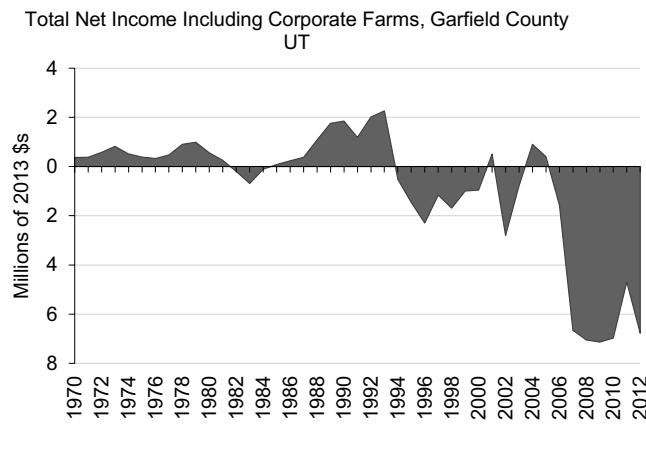
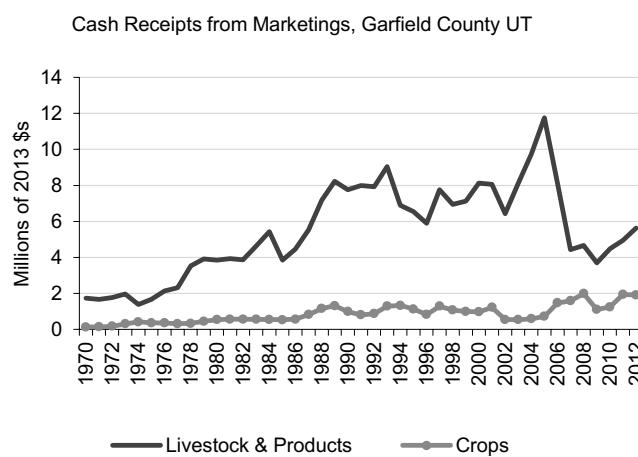


Figure 5.5.4. Cash Receipts from Marketings, Garfield County, 2013



### 5.6. Kane County Economics

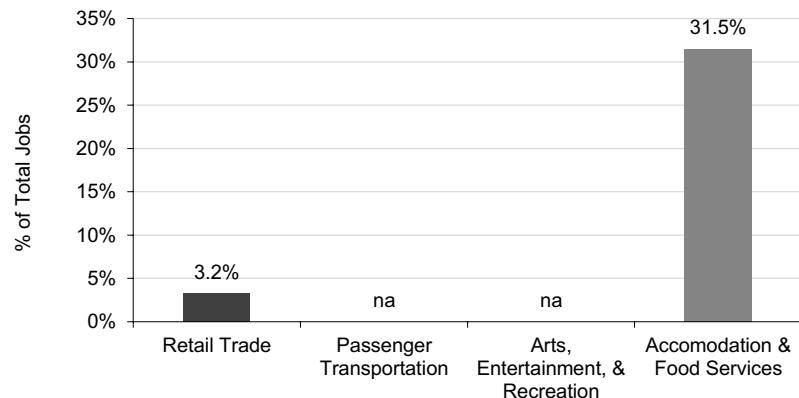
In 2013, service sector jobs in Kane County made up 71% of all employment. Non-services jobs were 5.5% of jobs, and government employment provided the remaining 23.5% of jobs. An estimated 19.3% of all jobs were within State and local government agencies, and approximately 4.2% were federal or military jobs.

Table 5.6.1. Employment Sectors as a Percent of Total Employment, Kane County, 2013

<b>Employment Sectors, Percent of Total Employment (2013)</b>	<b>Kane County, UT</b>	<b>United States</b>
Total Private Sector	76.5%	84.3%
Services	71.0%	69.5%
Trade, Transportation, Utilities	13.4%	19.1%
Information	0.7%	2.0%
Financial Activities	3.6%	5.7%
Professional and Business	2.1%	13.8%
Education and Health	3.4%	15.1%
Leisure and Hospitality	33.4%	10.6%
Other Services	14.3%	3.1%
Non-Services	5.5%	14.8%
Natural Resources and Mining	n/a	1.5%
Construction	2.3%	4.3%
Manufacturing (Including Forest Products)	n/a	9.0%
Government	23.5%	15.7%
Federal	3.2%	1.9%
Military	1.0%	1.3%
State & Local	19.3%	12.5%
Source: EPS-HDT, 2015		

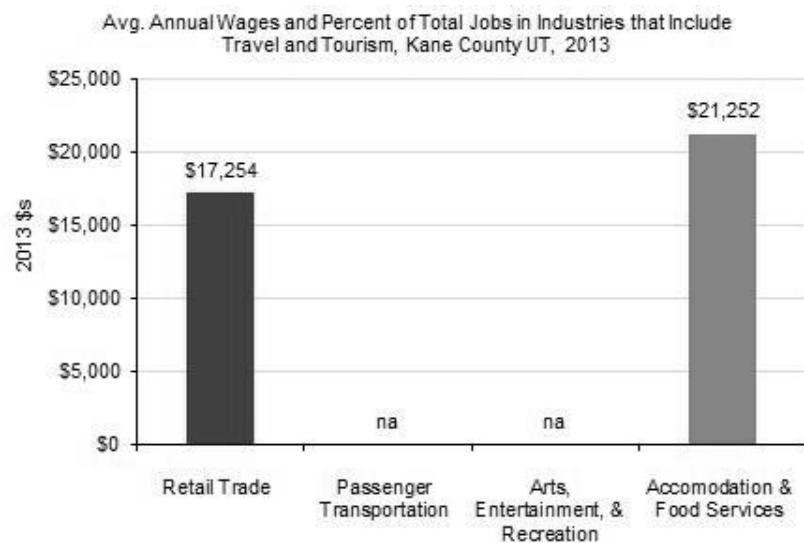
Travel and tourism contributed to the economy of Kane County in 2013, where more than 34% of total jobs were within industries that serve the needs of travelers and tourists.

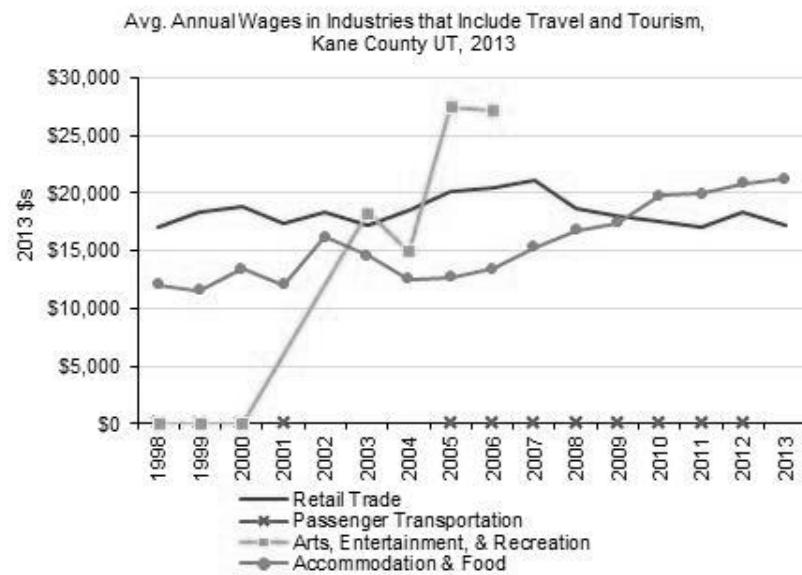
Figure 5.6.1. Travel and Tourism Jobs, Kane County, 2013



Source: EPS-HDT, 2015

Figure 5.6.2. Average Annual Wages in Travel and Tourism, Kane County, 2013

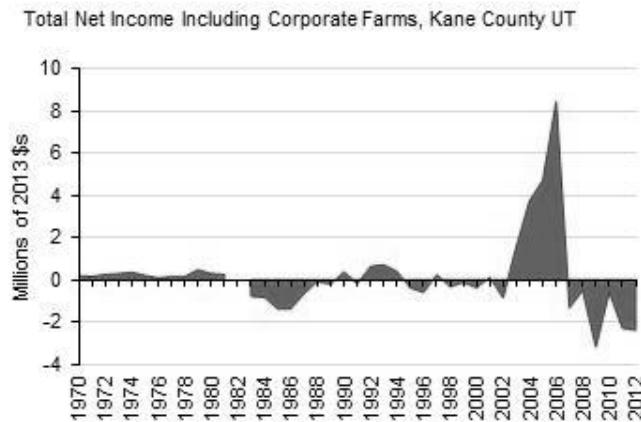




Source: EPS-HDT, 2015

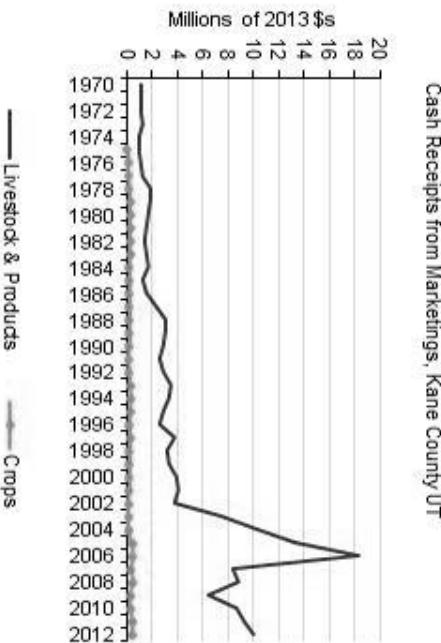
Kane County farmers fared somewhat better than Coconino or Garfield Counties in recent years, although beginning in 2007 Kane County agriculture too experienced negative net farm income. Since 1970, cash receipts for livestock and livestock-related products sold by Kane County agricultural producers have increased over time. In spite of a downturn in the mid-2000s, overall cash receipts from livestock-related marketings have continued to make ground in terms of 2013 dollars.

Figure 5.6.3. Net Farm Income, Kane County, 2013



Source: EPS-HDT, 2015

Figure 5.6.4. Cash Receipts from Marketings, Kane County, 2012



Source: EPS-HDT, 2015

## 6. OVERVIEW OF SOCIOECONOMIC IMPACT ANALYSIS

The purpose of this baseline report is to establish a “slice in time” overview of the baseline SE conditions in the study area for the MMP-A, as well as to lay out the setting and prior conditions that will serve as the backdrop for completion of the SE analysis for the connected EIS. This section gives an advance overview of the planned approach to the social and economic analyses that will be conducted as part of the MMP-A planning process.

### 6.1. Overview of Social and Economic Variables

An SE analysis describes the existing social and economic conditions that serve as the context for planning; identifies the SE variables in which differences among the alternatives being evaluated are likely to differ; and it analyzes each alternative and describes the impacts that are expected to occur should that alternative be chosen and implemented. Typical variables that are analyzed in this type of SE evaluation include basic demographics, income and housing characteristics, employment statistics, relevant market and industry variables, total economic activity, and so on. The specific variables included for socioeconomic analysis will be determined and identified in the Draft EIS.

### 6.2. Summary Report on Socioeconomic Workshops

In January 2014, BLM held a series of public socioeconomic workshops in Escalante, Kanab, and Cannonville, Utah, to gather local input and data for use in the SE analysis to be completed as part of the GSENM MMP-A/EIS. Ranchers, representatives from the recreation community, local business owners, community leaders, and other interested individuals were invited to participate in the workshop series; the meetings were open to the public. They were asked to work with BLM natural resource specialists and managers to develop representative scenarios describing

typical ways in which the ranches of different sizes and types use the Monument, other public lands, and private lands as part of their ranch operations. The scenarios developed during the workshops and summarized in this report will provide key input into the SE analysis for the MMP-A/EIS. The workshops were conducted by Julie Suhr Pierce, Ph.D., Great Basin Socioeconomic Specialist for BLM, under the direction of Acting GSENM Manager Sarah Schlanger, with assistance from and facilitation by multiple Monument staff and natural resource specialists. In total, 80 citizens, representing local livestock grazing permittees, federal and local government representatives, recreationalists, local business owners, and local interest group representatives signed in at the workshops (additional attendees were present in some locations but did not sign in).

### ***Socioeconomic Workshops***

Workshops were held in Escalante, Kanab, and Cannonville, Utah. Each socioeconomic workshop was conducted in the following format:

- Introductory remarks by Dr. Schlanger
- Introduction of the SE workshop framework and objectives, explanation of “levels of abstraction” and “anchoring”, and establishment of workshop ground rules by Dr. Suhr Pierce
- Organization into break-out groups
- Break-out work session facilitated by BLM field staff and resource specialists
- Reassembly into a single group for final data gathering (as needed), the presentation of break-out group reports, and concluding remarks (time permitting)

In addition to the activities listed above, at each workshop Dave Conine, Director of USDA’s Rural Development Agency, gave a presentation on the services and economic development support available to rural communities through the Rural Development Agency. The programs mentioned included loan guarantees, grants, and other types of support.

### ***Introductory Remarks***

To begin the workshop, Dr. Schlanger welcomed workshop participants, introduced BLM personnel, and thanked participants for their attendance. She also provided an overview of the MMP-A/EIS project, explained the intent and objectives of the workshop, and outlined the planned schedule for the event.

These introductory remarks were followed by a discussion of the use of symbolic language conducted by Dr. Suhr Pierce. The purpose of this was twofold: First, tying discussions during the workshop to specific “on-the-ground facts” would help participants to communicate clearly within the workshop. Second, avoiding the use of highly abstract labels and using “ground-level” information instead is necessary to the development of an adequately specific data set to meaningfully inform the subsequent analysis of the SE impacts of MMP-A/EIS alternatives.

### ***Assembling Break-out Groups***

After introductory remarks had concluded, Dr. Suhr Pierce divided workshop participants into four smaller working groups. The basis for assigning individuals to these break-out groups varied from one workshop to the next, ranging from being largely random to being based on the composition of the overall group in attendance and the types of ranching operations represented at the meeting. The sizes of the small groups ranged from four or five members to as many as eight or more, depending on the total number of participants in each workshop session. While an initial attempt was made to include some degree of diversity of backgrounds in each group, group compositions also reflected a desire to obtain solid data on specific types of ranching operations. This required that at a minimum each group include one or two people possessing an adequate understanding of the group's assigned operating scenario.

### ***Break-out Group Work***

Once break-out groups had been organized around specific ranching operation types, the groups went to work on answering two sets of questions. Each set focused on a specific SE aspect of the communities surrounding the Monument and how they interact with it: cattle ranching operations, and recreation and tourism.

The cattle ranching questions were designed to elicit data needed for two purposes: first, for informing this SE baseline report, and second, for developing scenarios to represent the typical ways in which ranchers operate on public and private grazing lands in the region when they use lands in the planning area for at least some part of their grazing system. Once a range of alternatives has been developed—later in the planning process—the ranching scenarios will be used to model the estimated SE impacts of the alternatives on actual operational ranches.

The recreation and tourism questions were designed to elicit data regarding the relationship between grazing in the planning area and recreational and tourist-oriented uses of the planning area, in addition to developing information regarding the economics of both commercial and noncommercial recreational activities in and around GSENM. Like the cattle ranching questions, the answers to these questions were intended to inform this SE baseline report as well as providing data for the upcoming planning-related analysis. A report detailing the SE workshops is available on the GSENM website.

The break-out groups were each provided a BLM facilitator. The facilitators were responsible for helping their groups to stay on track, for assisting with obtaining clarifications where questions were ambiguous or confusing, and for recording the group's answers to workshop questions on a flip chart.

### ***Concluding Activities***

After the break-out groups finished their work (or when the available time ran out), the group reassembled and shared highlights from their experiences or dispersed after a few final remarks, depending on the situation. Here are some key points that emerged from the workshop series as a whole:

- The heritage aspects of ranching in the region around GSENM and Glen Canyon NRA are important to the gateway communities. Family, tradition, and carrying-on a multi-generational legacy of hard work and independence are highly valued by many workshop participants.

- There is a lot of variability in seasons of use on Monument administered and other public and private land grazing allotments.
- There is also variation in the sizes of cattle herds that ranchers run on lands in the planning area. In addition, producers sometimes operate as a single entity, and sometimes multiple producers operate in a group on a single allotment.
- Some producers have access to enough private grazing land to provide them a cushion for times when grazing on public land is not available due to drought or other issues. Other producers do not have access to private ground other than their ranch headquarters corrals, which in many cases do not provide any forage for livestock. Access to private or alternate grazing lands, such as state lands, cannot be taken for granted when making assumptions about how ranchers might respond to range conditions. (In other words, participating ranchers stated that public land managers should not assume that if a rancher's permitted AUMs or head of animals are reduced, they will simply move the animals to an alternate location for grazing. Such a location may not be available, especially if AUMs are being reduced range wide, leading to competition for alternative grazing locations.)
- Some participating producers, who do not have reasonable access (or who have no access at all) to alternate grazing lands, said, "Any reduction in permitted AUMs would be devastating."
- Generally speaking, ranchers have a positive attitude toward tourists and recreationists. That being said, they are united in their frustration over issues such as gates being left open, vandalism, and cattle being harassed, kept away from watering facilities, "cliffed" (inadvertently or purposefully herded onto a ledge where they are unable to get back down), or pushed into slot canyons.
- Recreation is viewed by many as being compatible with cattle grazing operations, but there are some circumstances in which cattle have a negative impact on specific types of recreation users, especially when cattle lounge in riparian areas or near springs in remote locations: Some perceive that there is a trade-off between recreation use and grazing, while others do not believe that such a trade-off exists.
- Local businesses that rely on recreation and tourism to one degree or another include lodging, restaurants, outfitters, gift shops, road departments, mechanics, public agencies, and other organizations or businesses that serve tourists and recreational visitors in one way or another.
- Recreationists visiting the area range from low-cost users such as day hikers who aren't spending the night locally and often spend very little money in the area, all the way to visitors who stay in the local area and spend money on outfitters, ATV riding, horseback trail rides, and relatively more-expensive activities.
- Cattle grazing is seen by many attending the workshops as an important part of the tourist experience in GSENM region. Ranchers report positive experiences of tourists stopping to take photos and ask questions about the activities they are observing.

- Some recreational visitors cause damage to ranching infrastructure and/or cattle by leaving gates open, pushing cattle into locations that are either undesirable or lethal, vandalizing pumps and other ranch capital, or colliding with cattle with their vehicles, among others.
- Workshop participants feel a responsibility for and take pride in contributing to public safety through watching out for visitors on backcountry roads and trails within the planning area.
- Ranching families are thought to play a key role in keeping local basic economies solvent during the off-tourism months of the year, primarily in winter.
- Workshop participants expressed a largely positive view of GSENM and Glen Canyon although this is tempered by concern that future decisions regarding management in the planning area could possibly have a detrimental impact on their businesses and their families.

### **6.3. Overview of Grazing Economics Analysis**

The model that will be used in calculating the economic impacts of changes in permitted AUMs implements a partial-budgeting, marginal analysis approach to economic analysis of an agricultural enterprise. The model is based on a series of assumptions related to both market conditions and how the affected ranches might respond to changes in AUMs given those conditions, as outlined below.

The AUMs used as the baseline for comparison in the model will be taken from current active AUMs listed in the descriptions of the alternatives. AUMs and months of use for each alternative will be plugged into the model to evaluate the economic effects of the increase or decrease in AUMs that would occur if a specific alternative were implemented. Transfers of livestock from one allotment to another by the same owner will be treated as internal sales of animals and will be evaluated as separate enterprises.

In the model, it is assumed that the maximum AUMs permitted in any given month on the allotment serve as the limiting factor in determining the maximum size of the herd from which annual production can be obtained. The total supported number of animal units is set by the number of AUMs divided by the number of months on the allotment. In other words, an allotment with 180 permitted AUMs spread over 6 months would be able to support no more than 30 animal units, and the size of the herd is assumed to be constant throughout the year, regardless of how many months the herd grazes on the allotment being evaluated. Each animal unit is assumed to be equal to one cow-calf pair.

For the MMP-A analysis, the specific production and market assumptions that will be run through the model are those that were developed as a result of data gathered during the SE workshops, as well as by accessing the latest available industry data at the time the analysis is conducted.

If the total number of animal units increases under an alternative, it is assumed that the rancher will purchase additional cattle under the same conditions as outlined above for excessed cattle. The cost of additional cattle is annualized over ten years as a stream of costs, added to overall operating costs for the allotment.

Expected annual revenue includes proceeds from calf sales and any revenue stream derived from the sale of excess cattle. Expected annual costs include herd maintenance costs, herd moving costs, "off-allotment" feeding costs, grazing permit costs, and any stream of costs resulting from the purchase of additional cattle. The model does not include ranch operations' fixed costs, costs or returns on land investments, or depreciation. The mathematical model provides the ability to include investments in fixed infrastructure on range allotments as part of the overall economic analysis. In order to make the analysis comparable across allotments, however, infrastructure costs were not included in the completed economic analysis. Total expected annual net revenue in the model equals expected annual revenue minus expected annual costs.

After ranch-level impacts have been estimated, output from the model will be used as the basis for analyzing the economic impacts of changes in AUMs under each alternative on the study area as a whole. Regional economic impacts, in terms of direct, indirect, and induced output, spending, and employment, will be evaluated using IMPLAN regional economic analysis software.

#### **6.4. Overview of Social and Cultural Impacts Analysis**

The social and cultural impact analysis is expected to be conducted using techniques that will elicit input from the public in addition to using existing data to estimate stakeholder responses to the characteristics of the alternatives. Social impact assessment is often an integral part of planning processes where there are likely to be human impacts:

"It is important to consider the social equity or distribution of impacts across different populations. Just as the biological sections of EIS's devote particular attention to threatened or endangered plant and wildlife species, the socioeconomic sections of EIS's must devote particular attention to the impacts on vulnerable segments of the human population. Examples include the poor, the elderly, adolescents, the unemployed, and women; members of the minority and/or other groups that are racially, ethnically, or culturally distinctive; or occupational, cultural, political, or value-based groups for whom a given community, region, or use of the biophysical environment is particularly important.

"In addition to the types of disturbances that can affect other species, humans are affected by changes in the distinctly human environment, including those associated with the phenomenon known as the social construction of reality. Persons not familiar with the social sciences are often tempted to treat social constructions as mere perceptions or emotions, to be distinguished from reality. Such a separation is not so easy to accomplish. We are careful to point out that the social construction of reality is characteristic of all social groups, including the agencies that are attempting to implement changes as well as the communities that are affected.

"In the case of proposed actions that involve controversy, attitudes and perceptions toward a proposed policy change are one of the variables that must be considered in determining the significance of impacts (40 CFR 1508.27b[4]). During controversies, participants are often tempted to dismiss the concerns of others as being merely imagined or perceived.

“There are two important factual reasons not to omit such concerns from SIA’s and EIS’s, regardless of whether the views are widely accepted internally or come from an agency’s critics. First, positions taken by all sides in a given controversy are likely to be shaped by (differing) perceptions of the policy or project, and the decision to accept one set of perceptions while excluding another, may not be scientifically defensible. Second, if the agency asserts that its critics are ‘emotional’ or ‘misinformed,’ for example, it is guaranteed to raise the level of hostility between itself and community members and will stand in the way of a successful resolution of the problem.

“In summary, some of the most important aspects of social impacts involve not the physical relocation of human populations, but the meanings, perceptions, or social significance of these changes.”<sup>18</sup>

## 7. REFERENCES

The EPS-HDT system used to derive the data shown in many of the tables in this report, as well as many of the figures included, accesses and uses data from the following sources:

### Data Sources

The EPS-HDT Measures report uses published statistics from government sources that are available to the public and cover the entire country. All data used in EPS-HDT can be readily verified by going to the original source. The contact information for databases used in this profile is:

2000 Decennial U.S. Census  
 Census Bureau, U.S. Department of Commerce.  
<http://www.census.gov>  
 Tel. 303-969-7750

American Community Survey  
 Census Bureau, U.S. Department of Commerce.  
<http://www.census.gov>  
 Tel. 303-969-7750

Census of Agriculture  
 Nat. Agricultural Statistics Service, U.S. Dept. Agriculture  
<http://www.agcensus.usda.gov>  
 Tel. 800-727-9540

County Business Patterns  
 Census Bureau, U.S. Department of Commerce

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<sup>18</sup> From Guidelines and Principles For Social Impact Assessment, U.S. Department of Commerce National Oceanic and Atmospheric Administration National Marine Fisheries Service, 1994.  
[http://www.nmfs.noaa.gov/sfa/social\\_impact\\_guide.htm](http://www.nmfs.noaa.gov/sfa/social_impact_guide.htm)

<http://www.census.gov/epcd/cbp/view/cbpview.html>  
Tel. 301-763-2580

Local Area Unemployment Statistics  
Bureau of Labor Statistics, U.S. Department of Labor  
<http://www.bls.gov/lau>  
Tel. 202-691-6392

National Bureau of Economic Research  
<http://www.nber.org/cycles/recessions.html>  
Tel. 617-868-3900

Population Division  
Census Bureau, U.S. Department of Commerce.  
<http://www.census.gov/population/www/>  
Tel. 866-758-1060

Protected Areas Database v 1.3 2012  
U.S. Geological Survey, Gap Analysis Program  
<http://gapanalysis.usgs.gov/padus/>

Quarterly Census of Employment and Wages  
Bureau of Labor Statistics, U.S. Department of Labor  
<http://www.bls.gov/cew>  
Tel. 202-691-6567

Regional Economic Information System  
Bureau of Economic Analysis, U.S. Department of Commerce  
<http://bea.gov/bea/regional/data.htm>  
Tel. 202-606-9600

TIGER/Line County Boundaries 2012  
Bureau of the Census, U.S. Department of Commerce  
<http://www.census.gov/geo/maps-data/data/tiger.html>

U.S. Bureau of Land Management  
U.S. Department of Interior  
[www.blm.gov](http://www.blm.gov)  
Tel. 202-208-3801

U.S. Census of Governments  
Census Bureau, U.S. Department of Commerce  
[www.census.gov/govs](http://www.census.gov/govs)  
Tel. 800-242-2184

## U.S. Fish and Wildlife Service

Realty Division, U.S. Department of Interior  
[www.fws.gov](http://www.fws.gov)  
Tel. 703-358-1713

U.S. Forest Service  
U.S. Department of Agriculture  
[www.fs.fed.us](http://www.fs.fed.us)  
Tel. 800-832-1355

U.S. Office of Natural Resources Revenue  
U.S. Department of Interior  
[www.onrr.gov](http://www.onrr.gov)  
Tel. 303-231-3078

The on-line American Community Survey data retrieval tool is available at:  
<http://www.census.gov/acs/www/>